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# SOAP

## and SANITARY CHEMICALS


# found

Climbing trees and observation towers... looking through telescope and binoculars will not help you find the *perfect scent* for your particular product. But here's how you can find it: **Set your sights on D&O...** Here you will find more than 150 years of experience, extensive world resources, modern research and compounding laboratories, skilled master perfumers. Here, too, you will find myriads of new, exciting fragrances being created... new and unusual perfumery materials being developed to meet new conditions, to solve new problems, to anticipate tomorrow's trends. Here, then, at D&O is where you *will find* the *Profitable*, the *Correct*, the *Perfect* scent for your product... and the happy solution to your most complex perfuming problems. Consult D&O.

D&O ESTABLISHED 1798

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180 Varick Street • New York 14, N. Y.

ATLANTA · BOSTON · CHICAGO · CINCINNATI · DALLAS · LOS ANGELES · PHILADELPHIA · ST LOUIS · SAN FRANCISCO

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES


1-5

FEBRUARY 1950

# SOLVAY
TRADE-MARK REG. U.S. PAT. OFF.

# CAUSTIC POTASH

AVAILABLE FOR IMMEDIATE DELIVERY FROM NUMEROUS STRATEGICALLY-LOCATED STOCK POINTS

## for Quality Soap and Soap Products

**SOLVAY SALES DIVISION**
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

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***SPECIFY***

**SOLVAY CAUSTIC POTASH**

- 49-50% Liquid in tank cars
- 45% Liquid in drums
  Also in Dry Forms
- ✓ EXCEPTIONAL PURITY
- ✓ LOW TURBIDITY

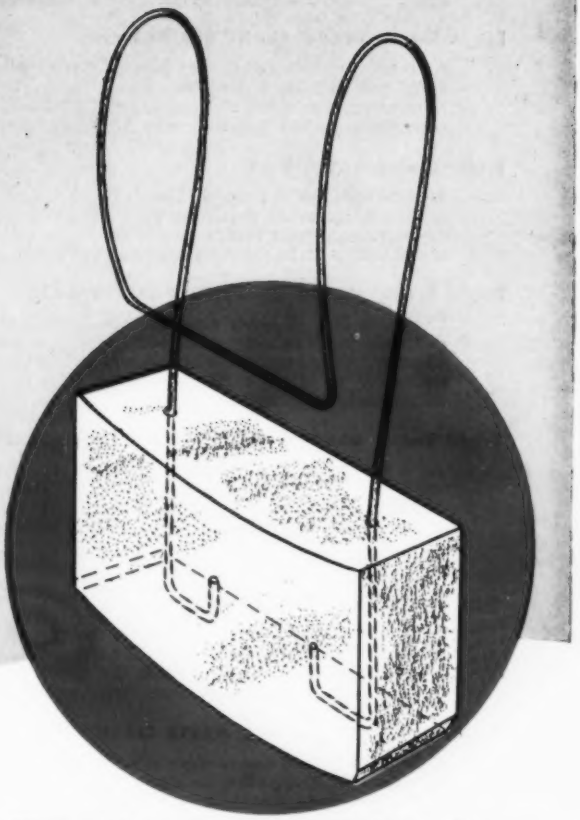
# A double feature!

**For completely effective deodorization of lavatories, concentrate on the source. The "Double Feature" attack of Duo Grip Bowl Blocks concentrates attention where it is needed. To achieve this concentrated action *algaecide* is added to each block for "down the drain" effectiveness.**

# DUO-GRIP BOWL BLOCKS

**Destroy the algae which cling to drain pipes and retain filth. Algaecide removes the source of stench and stink, protects health, makes the comfort room comfortable and increases the life of drain pipe plumbing.**

**A brand new patent grip principle has been employed to assure that the bowl block will remain suspended in place to the last whisper of effectiveness. The loss of substantial portions of the block, due to dropping off, is eliminated by the crafty use of the Duo-Grip principle. See illustration for evidence of this new grip principle. The block fits snugly in place under the rim of the bowl and, due to the attractive white color and streamlined design, blends to the contours of the bowl, inconspicuously positioned for complete satisfaction.**



**Duo-Grip Algaecidal Bowl Blocks, Style GA, are Vitozone* processed! Compression under 80 tons assures thorough perfume incorporation of top grade paradichlorobenzene, sturdy construction and uniform exactness. Evaporation control is complete throughout the period of use, permitting the block to release a perfumed bouquet uniformly while also releasing the algaecide. Attractively packaged in handsome machine wrapped cellophane in cartons, to safeguard against premature vaporization.**

*Reg. U.S. Pat. Office

## FULD BROS., Inc.

702 South Wolfe St.
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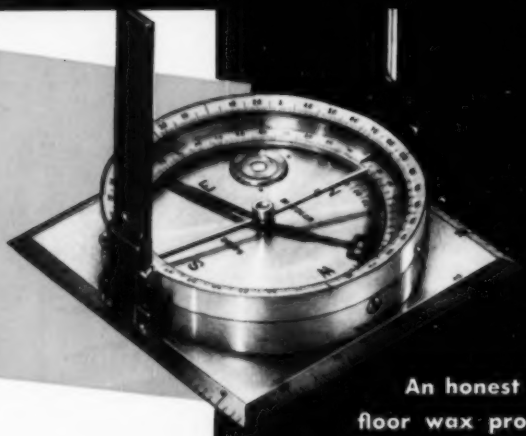
Manufacturers of Sanitary Maintenance Chemicals

# A GUIDE

## TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE



**An honest appraisal of floor wax products as we see it is offered to guide wax buyers who want the best quality money can buy...**

**SELF POLISHING WAXES**

Candy's Supreme–Candy's Supreme Special AS
Candy's DeLuxe–Bright Beauty

Four floor waxes that *are* all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

**Bright Beauty FLOOR CLEANER**

An outstanding material for removing even the heaviest wax film and dirt....Brings neglected floors "back to normal." The *right* cleaning agent to insure the most efficient floor maintenance.

**Bright Beauty CREAM FURNITURE POLISH**

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits *repeated repolishing* with a dry cloth saving reapplications time and again; truly a very economical polish of very highest quality.

**Bright Beauty PASTE WAX**

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

**Bright Beauty LIQUID (spirit) PREPARED WAXES**

Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Dry-Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable), bars, wallpaper, etc.

**Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH**

As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with neglible "powdering" and produces an undeniable "feel" of cleanness to glass that is actually true in fact. Different in color only as Silver polish, it imparts a highly desirable lustre to all silver *without* abrasion and can even correct the abuses of scratchy, "quick-polish" inferior products.

**Bright Beauty DANCE FLOOR WAX**

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove...also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

**Bright Beauty Heavy Duty PASTE CLEANER**

Really *cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

**Bright Beauty SHUFFLEBOARD WAXES**

Few can really demand the right product–so get on the inside early with the waxes that will *always* meet the most highly skilled performers demands for "fast play" and steady performance–the paste wax to produce a "base" of exceptional hardness and durability–a powdered wax to keep game progress on an even footing; truly tops in quality that *fully protects the expensive playing surface!*

**1. BEAUTY AND DURABILITY**

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic, but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

**2. ANTI SLIP**

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance–a wax film which is not excessively slippery yet which is not tacky and does not excessively collect dirt.

**3. WATER RESISTANCE**

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

**4. SOLID CONTENT**

when expressed in percentage is not nearly as important as the *quality* of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However, the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

**5. CARNAUBA WAX**

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax...ALL AROUND QUALITY OF PERFORMANCE

**● ALL AVAILABLE FOR PRIVATE BRAND ONLY**
**We do not compete with our jobbers for consumer sales. We sell only to distributors, except for experimental accounts in Chicago essential to research.**

*Wax Specialists for over 55 years*


**Candy & Company, Inc.**

**2515 W. 35th ST., CHICAGO**

Volume XXVI
Number 2
February 1950

# SOAP and SANITARY CHEMICALS

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# Where's the liquid cleaner bargain today?

A few years ago most liquid cleaners were considered good. They were the only ones available. Then, quite by plan, ALKATROL CONDITIONER-CLEANER, the advanced cleaner, developed! ALKATROL is completely new. Put to practical test, results prove startling. Flooring surfaces, thought to be thoroughly cleansed by those now antiquated cleaners, respond to ALKATROL with original true lustre. The surface becomes more beautiful, brighter, filmless, scum-free.

Two additional results are noted. One—labor costs, always the largest cost in cleaning operations, drop tremendously. ALKATROL CONDITIONER - CLEANER virtually works by itself. Scrubbing and heavy mopping are now as old fashioned as high button shoes. Two — the completely clean floor surface is *conditioned*. Not only is the original lustre restored, but its life is actually prolonged; and the surface is made potentially safer* for trampling feet.

Review these new facts in your own way. The question, "Where's the liquid cleaner bargain today?" is answered by these three vital words — ALKATROL CONDITIONER - CLEANER! What percentage is there, at any price, in selling less than ALKATROL! For complete and specific details, and samples of ALKATROL, write today.

*EXTRA NEWS! NOW, a new feature has been added to provide another great service.*

**ALKATROL**
**is available with**
**CHLOROPHYL**
**in AIR-FRESHENING ODOR**

In one cleaning-conditioning operation the floor surface becomes a giant dispenser that freshens the atmosphere throughout the entire room area. Literature available upon request.

**ALKATROL is listed by Underwriters' Laboratories, Inc., as an anti-slip floor treatment material. Safe for the floor, safe to walk on!*

**ALKATROL**
*Conditioner-Cleaner is approved anti-slip material*

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HOWARD & WEST STREETS ★ BALTIMORE 30, MARYLAND

*Manufacturers of quality waxes, soaps, cleaners, disinfectants and chemical specialties*

The classic presentation of Lily of the Valley, in a single, rich tone. Its stability is exceptional; Mugantheme holds true to its starting fragrance throughout evaporation.
Flowery compounds of all kinds are based on this widely used material, and its use in cosmetics is recommended.

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# FIRST FOR FATTY ACIDS

SPECIALIZATION in the production of fatty acids and their derivatives is the keystone of Hardesty's Fatty Acids. Each order received is given "personalized" attention and is constantly checked to maintain the standards you require.

Not only are Hardesty Fatty Acids economical to use but you get controlled quality and uniform end product results. Specify Hardesty — first for fatty acids!

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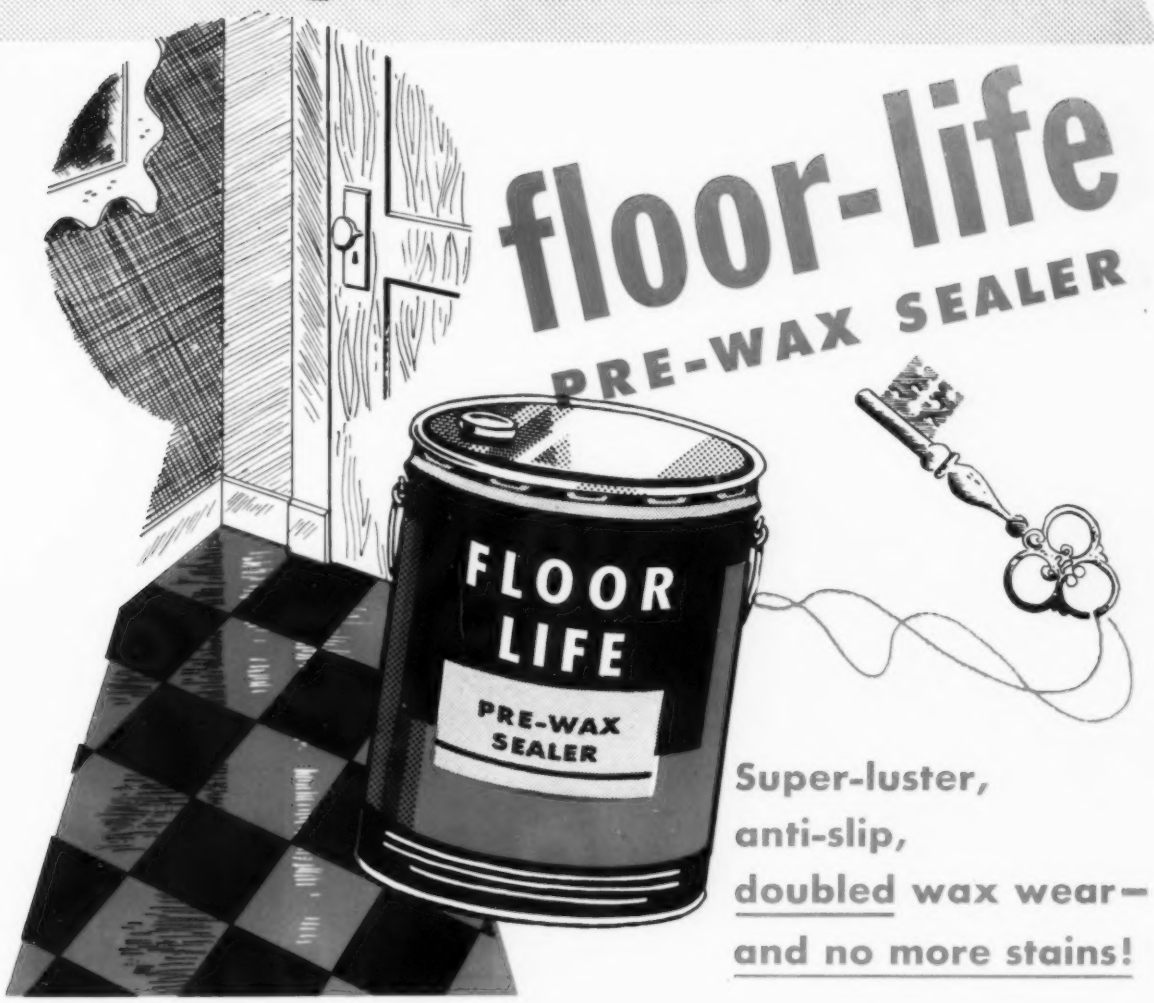
# the key to Better Floors!..




**Super-luster, anti-slip, doubled wax wear— and no more stains!**

**YOU WILL NEVER KNOW** how beautiful your waxed floors can look until you apply this sensational new sealer before waxing.

**FLOOR-LIFE** imparts a glorious, satin-glaze, hard finish that's a joy to behold. It actually doubles the wearing quality of any wax. Substantially reduces slip hazard. Try it once and say "Goodbye" to sticky, easily spotted, grease-or-water stained waxed floors—even during damp, humid days.

**So Easy to Apply!**
**Dries in 20 minutes**

*As easy as mopping water on a floor. Apply with lamb's wool applicator, short cotton mop or cloth. Can use on clean floors even though wax remains on surface.*

**For *All* Floors—NEW or OLD**

*FLOOR-LIFE contains beneficial plastics and emulsifiers that improve asphalt tile, linoleum, rubber, terrazzo, cork, wood, composition floors—in hotels, hospitals, schools, churches, restaurants, offices. NON-OXIDIZING, free from oil solvents, FOOLPROOF.*

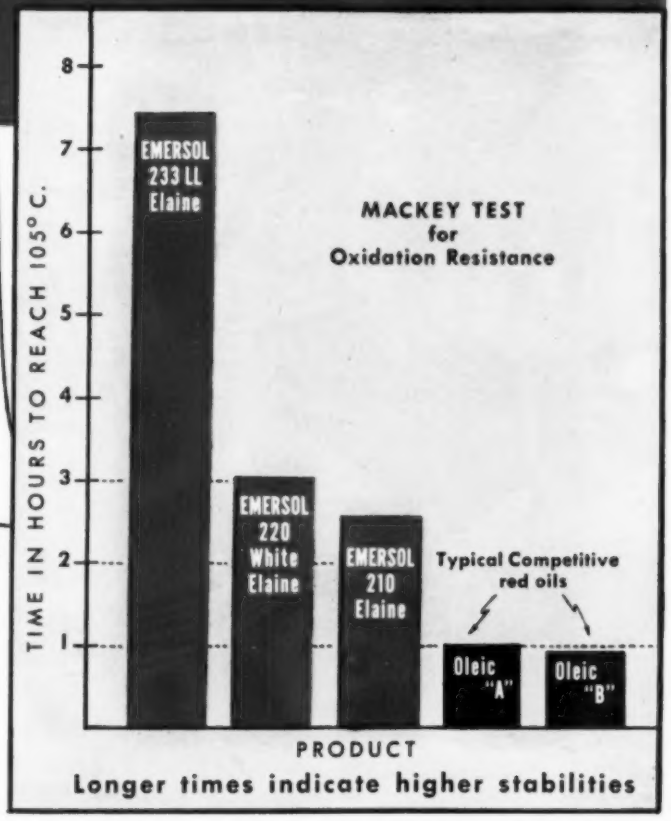
**1 GALLON AVERAGES 1800 SQUARE FEET COVERAGE**

Hysan PRODUCTS COMPANY

932 W. 38th Place, Chicago 9

# EMERY OLEIC ACIDS HAVE 2½ to 7 TIMES GREATER OXIDATION RESISTANCE!

*Tests prove greater stability compared with ordinary Oleic Acids.*




With prices *below* prewar levels, Emery Oleic Acids are replacing inferior substitutes to improve finished product quality and performance. Their outstanding characteristics include higher-than-ever saponifiable content (lower unsaponifiable) and unmatched color and odor stability.

The Mackey Test, a convenient means of measuring resistance to auto-oxidation, confirms the unequalled stability of these Emery Oleic Acids. While the regular Emersol Elaines are 2½ to 3 times more resistant to oxidation than competitive double-distilled oleic acids, Emersol 233LL Elaine is up to 7 times more resistant! In fact, Emersol 233LL is so stable and light in color that in many uses where the excellent color and oxidation stability of a stearic acid is the prime requisite, it can be substituted for the high-titer, saturated fatty acid.

For best results in uses involving oleic acids, insist upon Emersol Elaines.

**WORLD'S LARGEST PRODUCER OF FATTY ACIDS**

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*Dependable*

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PERFUMERY SPECIALTIES - ESSENTIAL OILS - AROMATIC CHEMICALS

# 4 good reasons why you should use **D-40 detergent**

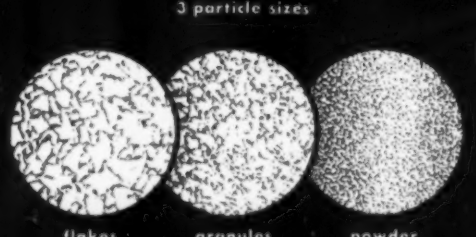
FOR WETTING, FOAMING, CLEANING AND COMPOUNDING

**ORONITE CHEMICAL COMPANY**

Reg. U.S. Pat. Off.

*THE NAME TO WATCH IN CHEMICALS*

NEW, WHITER COLOR MAKES D-40 & D-60 EXTREMELY ADAPTABLE FOR ANY COMPOUNDING OPERATION




**D-40's** superior *cleaning action* really gets the dirt, yet D-40 is neutral and will not harm the finest fabrics.

**D-40's** fast *wetting and penetrating* action and its remarkable stability over a wide range of pH conditions have proven helpful in a variety of industrial applications from fruit washing to dye leveling.

**D-40's** abundant *foam* will add "life" to any compound, yet for special purposes, the foam can easily be eliminated.

**D-40** in new whiter color, designed to suit any industrial, compounding or repackaging requirement, is now available in three particle sizes: flakes—granules—powder.

Oronite's Detergent Raw Materials are available in forms to fit the requirements and resources of all possible users. (1) *Alkane,* a clear, water-white alkyl aromatic hydrocarbon. Available to primary manufacturers of quality detergent products as a base stock for sulfonation. (2) *Detergent Slurry,* the sulfonated derivative of Alkane. A paste-like product for use in many cleaning applications or as a base for further compounding and drying. (3) *Dry Detergents D-40 and D-60,* the dry products from Oronite Detergent Slurry.

*Ask for complete technical information from your nearest Oronite office.*

**ORONITE CHEMICAL COMPANY**

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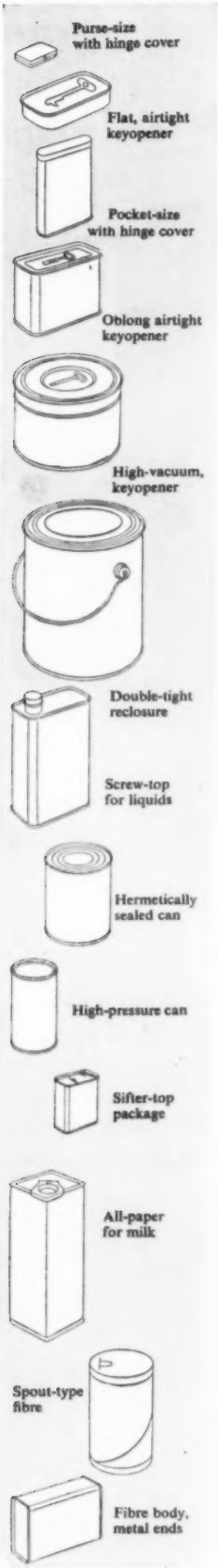
**STANDARD OIL BLDG., LOS ANGELES 15, CALIF.**
**30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.**
**600 S. MICHIGAN AVENUE, CHICAGO 5, ILL.**
**824 WHITNEY BLDG., NEW ORLEANS 12, LA.**

**WHICH PACKAGE SUITS YOUR PRODUCT?**



**"OB-ROUND"** shape means more cans pack in shipping container; more squirt per squeeze—from bellows-action sides that won't stick. Three heights (same size base): 1 oz; 3 oz; 4 oz. Full space for litho-label in many colors. Two types of closing machines available—for high-speed and for semi-automatic, limited production.

**NECKS** are integral part of top and are lined with synthetic rubber compound which is oil and solvent-resistant for effective sealing.
**SPOUTS** available in moulded plastic, transparent or colored, or extruded soft metal.

# If the consumer uses your product in small amounts at a time...

***this packaging suggestion may interest you***

**TWO USEFUL PRINCIPLES** are apparent in Canco's familiar lighter-fluid and household oil container.

The little nozzle dispenses a small amount at a time, and the screw top makes a tight reclosure for a volatile liquid.

**In addition to lighter fluid**

Immediately, it looks as if this container would be adaptable in some form to cologne, liquid deodorants, sun-tan lotions, cleaning fluids, polishes, rubbing alcohols, and oil and other liquid hair preparations.

How about this container for viosterol and other highly concentrated liquids requiring measurement by drops?

It's a thought to consider, and perhaps your package-development people and ourselves should talk things over.

**Since 1901,** Canco has been out front in creating new and more effective packages. There is hardly a major development in the packaging industry—whether it be for a food or non-food product, whether the problem is metal, or fibre, or a combination of both—that this keen, alert organization has not pioneered.

Canco can help you with eye-catching label designs, cost-cutting, sales-building advice on packages, processes, filling and closing.

Canco stands ready to serve you promptly in production-line emergencies. From Canco you get as many containers as you need when you need them. Let's get together! *Call Canco first* . . .

**AMERICAN CAN CO.**
CANCO
NEW YORK
CHICAGO
SAN FRANCISCO
HAMILTON, CANADA

It takes more than **steel and steam** to speed travelers across the vast blue waters of the world. Men . . . with skill, knowledge and experience must plot the course and guide the helm. So, too, in the perfuming of your product—oils and chemicals will produce an odor, but it takes men . . . highly skilled in the fine art of perfuming, to create a scent of true and lasting beauty that will assure the successful acceptance of your product.

MANUFACTURERS AND CREATORS OF THE FINEST PERFUME MATERIALS

**a** meringen · **h** aebler, inc.

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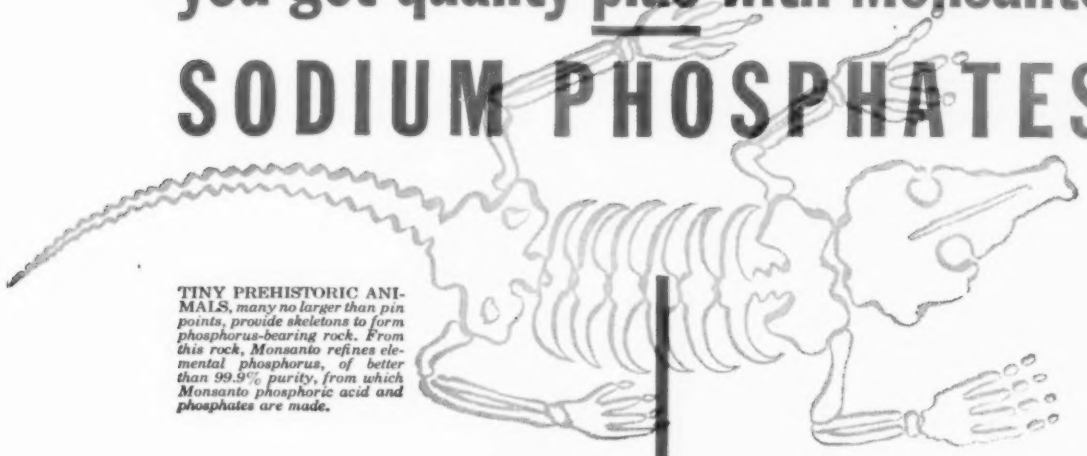
# you get quality plus with Monsanto

# SODIUM PHOSPHATES



TINY PREHISTORIC ANIMALS, *many no larger than pin points, provide skeletons to form phosphorus-bearing rock. From this rock, Monsanto refines elemental phosphorus, of better than 99.9% purity, from which Monsanto phosphoric acid and phosphates are made.*

When Monsanto is *your* source of sodium phosphates you get quality that comes with strict control of every production process. And you get more! You get prompt shipment made possible by expanded Monsanto production. You get a variety of sodium phosphates that enables you to choose the one that fits your specific need. For information and quotations on sodium phosphates . . . and a wide variety of other phosphates . . . mail the coupon, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk B, Phosphate Division, 1778 South Second Street, St. Louis 4, Missouri.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

## MONSANTO SODIUM PHOSPHATES AND SOME OF THEIR MANY USES

**MONO SODIUM** — Water treatment, textiles, acid cleaning compounds.

**DI SODIUM** — Cheese, leather, textiles, detergents, water treatment, dye, pigments.

**TRI SODIUM** — Water softeners, detergents, metal cleaners, water treatment, textiles.

**TETRA SODIUM PYRO** — Soap, detergents, cheese, textile dyeing, bleaching and finishing, metal cleaning, oil-drilling mud, water treatment, water softeners, glass degreasing.

**TRI POLY** — Soap, detergents, water softeners, textile dyeing, bleaching and finishing, degreasing, metal cleaning, clay refining.

**ACID SODIUM PYRO** — Baking powder, oil-drilling mud, electroplating.

**OTHER MONSANTO PHOSPHATES** — Calcium phosphates, ammonium phosphates, potassium phosphates, magnesium phosphates, aluminum phosphates, iron phosphates, alkyl acid phosphates, alkyl alkali phosphates, special phosphates and phosphoric acid.

MONSANTO CHEMICALS

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Desk B, Phosphate Division
1778 South Second Street, St. Louis 4, Missouri

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*Company*.....

*Street*.....

*City*.....*Zone*.....*State*.....

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*it's time to change to . . .*

# JAVONELLA

**PERFECT FOR PERFUMING . . .**

- LAUNDRY SOAPS
- WASHING POWDERS
- LIQUID CLEANSERS
- POLISHES, ETC.

## 3 GOOD REASONS WHY IT ALWAYS PAYS TO USE JAVONELLA

- It's a manufactured article . . . free from the price fluctuations of natural essential oils such as Citronella, Sassafras, etc.
- Its high quality never varies, enabling you to manufacture uniformly dependable products.
- Always lower in cost than the natural oils, particularly now with citronella prices on the rise, its use results in production economies and higher profits without lowering quality standards.

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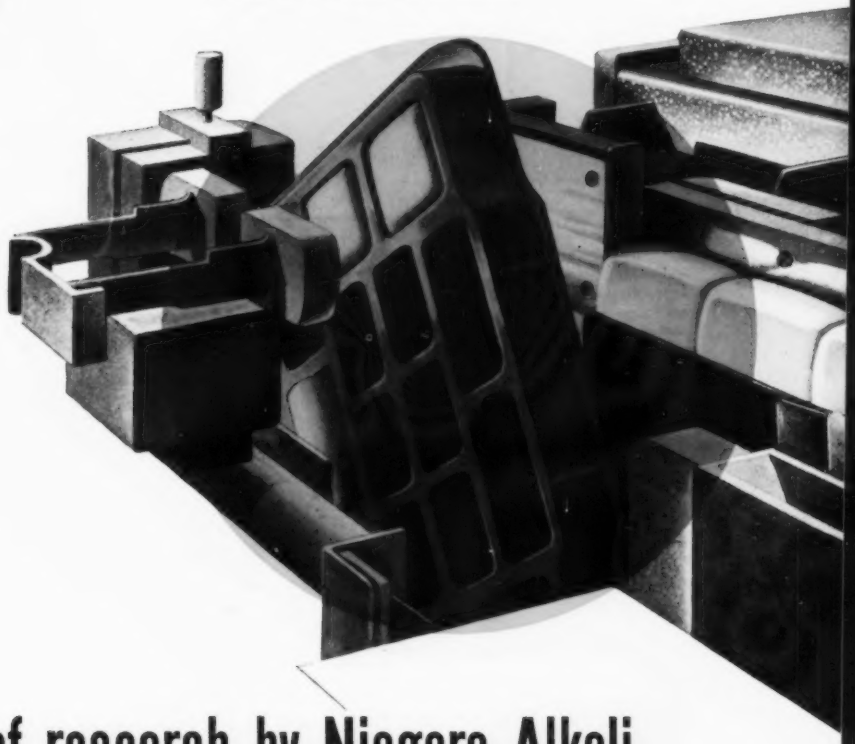
**FELTON CHEMICAL COMPANY, INC.**
599 Johnson Ave., Brooklyn 6, N. Y.

BRANCHES IN BOSTON • PHILADELPHIA • LOS ANGELES
ST. LOUIS • CHICAGO • DALLAS • MONTREAL • TORONTO

## *as you were in 1900*

Many soap-making operations were done by hand; so were some of the processes involved in paper, textile and glass manufacturing as well as water purification and sewage treatment.



## *as you are today*

Sanitary, efficient machine operations replace the old hand processes in soap manufacture.

# ...with 50 years of research by Niagara Alkali

Gigantic kettles four stories deep... capacities as high as 175 tons... these are the superlatives in which soap-makers are planning—and working —today. Every step in soap manufacture is absolutely controlled to assure a uniform and superior product.

Niagara Alkali, now observing its 50th anniversary, is likewise able to assure the uniformity and superiority of its products—the result of continuous research to achieve product control and efficiency. The success of this research is reflected in Niagara's ability to serve many fields well: paper, soap, glass, textiles, sewage treatment, water purification and others.

**NIAGARA ALKALI COMPANY**

**60 East 42nd Street, New York 17, N. Y.**

Liquid Chlorine · Caustic Potash · Carbonate of Potash · Paradichlorobenzene · Caustic Soda · NIALK TRICHLORethylene

# increase sales appeal in your private brand cleaners

**SS-C-PWD**
**($Na_2O \cdot 2SiO_2$)**
anhydrous powdered silicate; dissolves in boiling water, more slowly in cold water. Ground to pass 65 mesh.

**G SILICATE**
**($Na_2O \cdot 3.22SiO_2$)**
hydrated powder sometimes referred to as trisilicate.

**METSO 99**
**($Na_3HSiO_4 \cdot 5H_2O$)**
sodium sesquisilicate, U. S. Pat. Nos. 1948730, 2145649). White granular and free-flowing; readily soluble; vigorous cleaner.

**GC SILICATE**
**($Na_2O \cdot 2SiO_2$)**
hydrated, alkaline powder, more quickly soluble than G; pH of a 1% solution 11.5.

**METSO GRANULAR**
**($Na_2SiO_3 \cdot 5H_2O$)**
sodium metasilicate pentahydrate. A white granular product, uniform size particles; dissolves readily.

## ...with PQ soluble silicate detergents

When you want to step up appearance of your cleaners, and their efficiency too, look into the five PQ Silicate products described here. They will back up your sales presentation with convincing performance—quick dirt dissolving, effective dirt suspension, protection of the surface, no dirt re-deposit.

PQ Soluble Silicates are uniformly controlled, a quality on which you can rely. They are attractive white; good mixers with other alkalies, soaps, synthetic detergents, complex phosphates. They are conveniently packed for your own fabricating needs. (Fibre drums can be re-labeled and re-used.)

**PHILADELPHIA QUARTZ COMPANY**
**1152 Public Ledger Bldg., Philadelphia 6, Pa.**

# Mr. Fatty Acid Suggests...

# The big economy size!

How to save on

**CARLOAD SHIPMENTS:**

Order

**DRUM CARLOADS**

or

**COMPARTMENT TANK CARS**

of

ARCHER QUALITY

- **LINSEED OILS**
- **SOYBEAN OILS**
- **FATTY ACIDS**

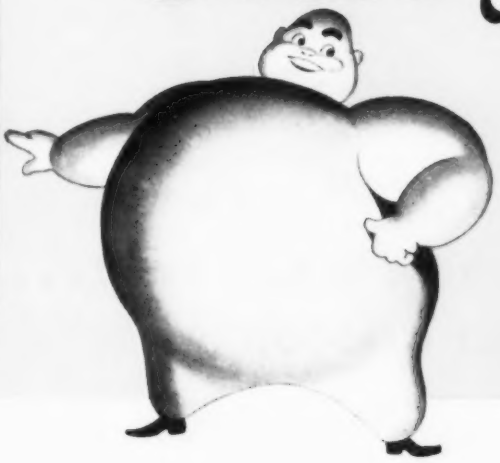
GET

LOWEST BASE PRICES

AND

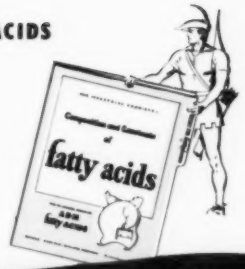
LOWEST FREIGHT RATES!

★ **VEGETABLE OILS** *and* **fatty acids** *for* **SOAP** ★



**ADM FATTY ACIDS**

- LINSEED
- SOYA
- CORN SOYA
- CORN
- COTTONSEED
- COCONUT




**H**ere's an important price advantage that *only Archer-Daniels-Midland Company* can offer you . . . a cash saving of *over a penny a pound* on every 30,000 lb. shipment of oils and fatty acids!

Because ADM can supply most every type of vegetable oil and fatty acid, you can very readily switch from LCL shipments to the rock-bottom price level of mixed carload or compartment tank car purchases. A lower base-price plus freight savings will reduce your costs *over a penny a pound* on mixed carload shipments . . . considerably more on compartment tank cars.

Your orders can include linseed, soybean or fish oil, any ADM Special Oils, any ADM Fatty Acids. Order raw, refined, bodied, blown or chemically modified oils. Quantities as small as 55 gallons in mixed carloads or 1,500 gallons in compartment tank cars.

Check our line of Fatty Acids. Then mail coupon below for information on the ADM Carload Purchase Plan. Schedule ADM mixed carload or compartment tank car purchases—for lower base prices, lower freight costs, smaller inventories, and *assured satisfaction!*

***Take the* ADM *SCIENTIFIC SHORTCUT***

SEND FOR DATA ON ADM CARLOAD PURCHASE PLAN

**ARCHER-DANIELS-MIDLAND COMPANY**

**600 Roanoke Building • Minneapolis 2, Minnesota**

● Please send details on the ADM mixed carload and compartment tank car purchase plan.

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*Address* _____

*City* _____ *Zone* ____ *State* _____

# Too new to name . . .
# Just ask for a Norda Original

*Use the odor that will help you make your line a leader tomorrow*

Norda calls it a NORDA ORIGINAL—you call it whatever you want. *You* name it—it's your *odor*.

The spicy, modern fragrance of every NORDA ORIGINAL has memorable, lasting bouquet. It has the distinguished difference you need. It's the smell that will sell every product.

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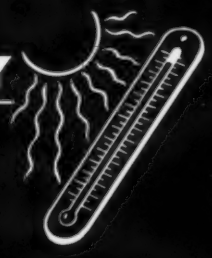
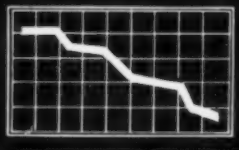
DOUBLE CHECKED FROM RESEARCH TO INDUSTRY

# GET

WATER SPOT RESISTANCE

HIGH TEMPERATURE STABILITY





REDUCED COST

BY USING SHARPLES

## DIETHYLAMINOETHANOL 246

with fatty acids in your floor wax formulations.

**WATER SPOT RESISTANCE**

Since this amine evaporates with the water from the wax film after application, water spot resistance is extremely high.

**HIGH TEMPERATURE**

Standard floor wax formulations using Diethylaminoethanol 246 do not gel when kept at 125°F. for 168 hours.

**COST**

Amines which produce formulations of equal quality are usually more expensive on either a pound or mol basis.

*For prices and technical information write to Dept. K.*

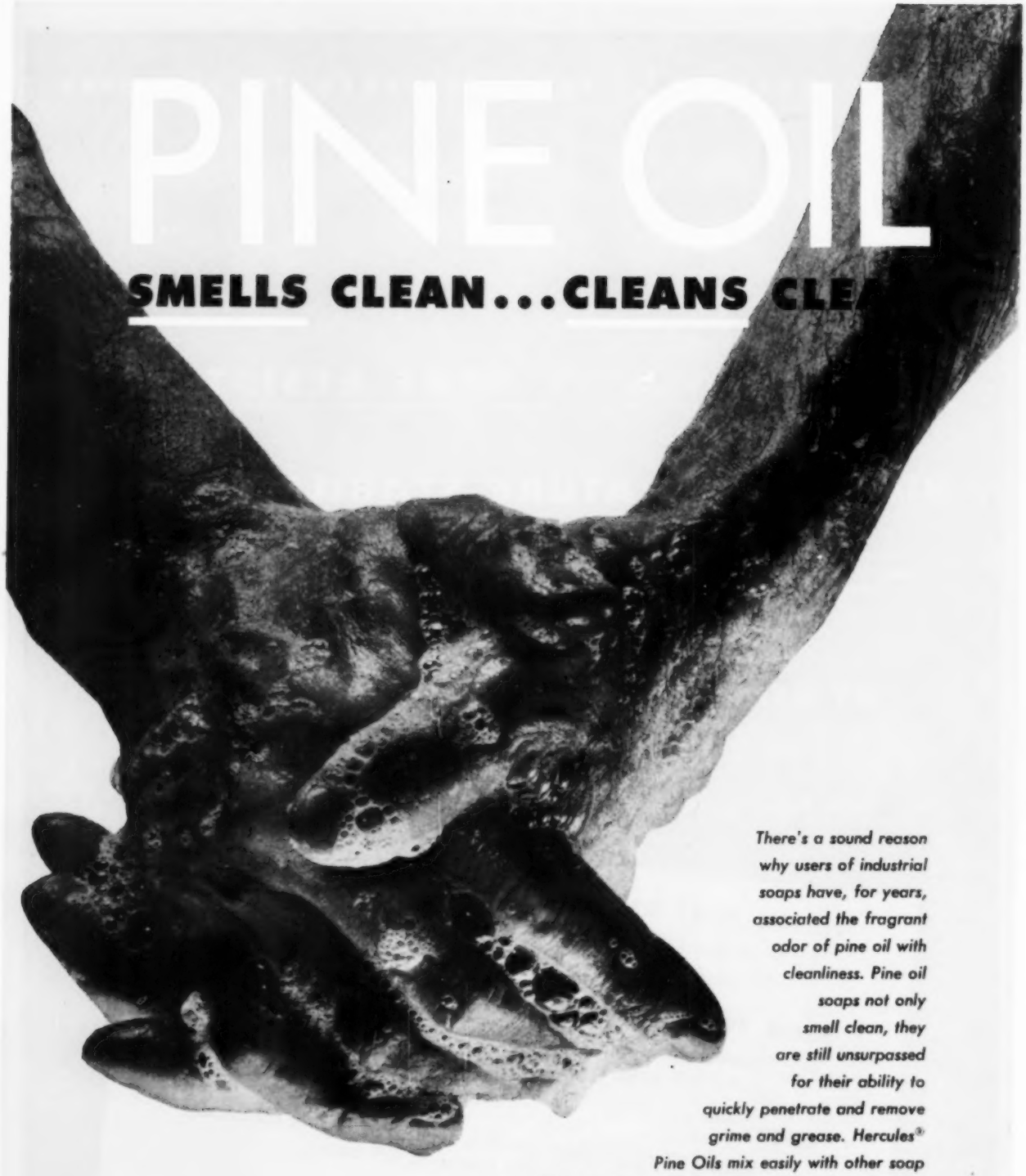
SHARPLES TRADE MARK CHEMICALS

SHARPLES CHEMICALS INC.

123 SOUTH BROAD ST.
PHILADELPHIA 9, PA.

PINE OIL

SMELLS CLEAN...CLEANS CLE



*There's a sound reason why users of industrial soaps have, for years, associated the fragrant odor of pine oil with cleanliness. Pine oil soaps not only smell clean, they are still unsurpassed for their ability to quickly penetrate and remove grime and grease. Hercules® Pine Oils mix easily with other soap ingredients, are non-staining, safe to handle, and low in cost. It will pay you to re-evaluate the economy and sales-appeal of these natural aromatic detergents. Send for testing sample and technical data.*

*HERCULES POWDER COMPANY* INCORPORATED *961 Market Street, Wilmington 99, Delaware*

"HERCULES" IS REG. U. S. PAT. OFF.

NC50-1

*Duraglas bottles are functioneered to suit housewives and sales managers!*

# GIVE A Work-a-Day Product A NEW SALES LIFT!

## Dress it in a Duraglas bottle—pick from more than 1400 styles "functioneered" for easy handling . . . easy sales

HOUSEWIVES are quick to spot the brands that offer the little extra conveniences that lighten their household tasks.

Want extra housewife favor for *your* product? Use one of the 1400 functioneered stock-mold Duraglas bottles. Ease of use is built right in: convenient pouring; shapes that fit hands; smooth finish for positive closure seal; visibility that shows "what's left" at a glance.

If you prefer a custom-made container, our Duraglas Center facilities will develop one for you. Specialists will create a customer-appealing design, and it will be produced with the know-how that gives each Duraglas bottle strength where needed, toughness at the right places, and day-after-day dependability on your filling line.

For everything from bottles to closures and shipping cartons, get in touch with Owens-Illinois. The local office near you will supply prompt service.

**Duraglas Bottles are Protectors of Quality**

TRADE MARK REG. U.S. PAT. OFF.

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

## DRYMET *

**THE ECONOMICAL DETERGENT SILICATE**

Cowles DRYMET, anhydrous sodium metasilicate, is the most highly concentrated form of sodium metasilicate available. It is more economical to use, on the basis of both $Na_2O$ (alkalinity) and $SiO_2$ (silicate) than any other type of hydrated or anhydrous detergent silicate, either compounded or by itself. DRYMET contains no water of crystallization.

## DRYSEQ *

**THE ALL-PURPOSE DETERGENT SILICATE**

Cowles DRYSEQ, anhydrous sodium sesquisilicate, is a medium pH alkaline cleaner which will do fast, dependable work at a low cost to the user. It is a white, free-flowing powder, quickly and completely soluble in hot or cold water—containing 56.75% $Na_2O$—making it an economical base material for compounding.

# Cowles CHEMICALS

## DRYORTH *

**THE HEAVY-DUTY DETERGENT SILICATE**

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60% $Na_2O$, which may also be used as an economical constituent of high pH cleaning compounds.

## CRYSTAMET *

**THE MEDIUM pH DETERGENT SILICATE**

Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble—chemically stable—easy to handle. Can be used on medium pH jobs.

★ PROMPT SHIPMENTS FROM CONVENIENT WAREHOUSE STOCKS . . .

*We'll be glad to send you our DRYMET File Folder containing complete technical information and suggested formulations.*

*REG. U. S. PAT. OFF.

**COWLES CHEMICAL COMPANY**

HEAVY CHEMICALS DEPARTMENT • CLEVELAND 3, OHIO

# Tests show reduction of skin bacteria on hands with "DYSEPT" *containing hexachlorophene*

**This new liquid soap** perfectly meets the needs of surgeons, physicians, hospitals, clinics, restaurants—any application where it's important to maintain skin bacterial population at a minimum level. Independent laboratory tests demonstrate that convenient "DYSEPT"—with 5% hexachlorophene to the anhydrous soap content—is both bactericidal and bacteriostatic with continuous daily use. Charts show percentage reduction.

**CHART No. 1.** Percentage reduction in resident bacteria on hands with continuous daily use of undiluted "DYSEPT" for 4 consecutive days. Tests actually ran over 5-day period. "Zero" days represents bacterial population before use of "DYSEPT."

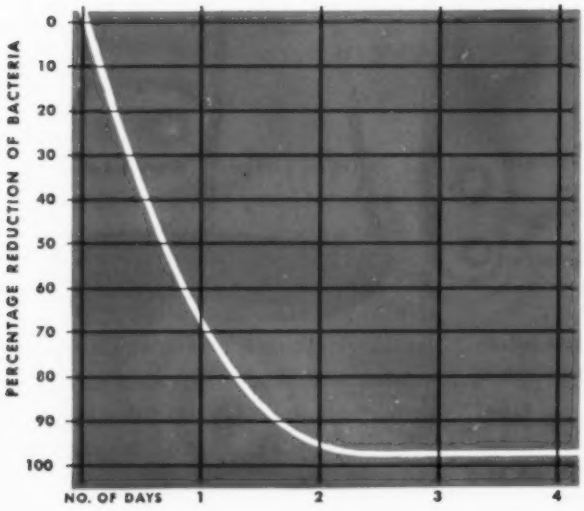
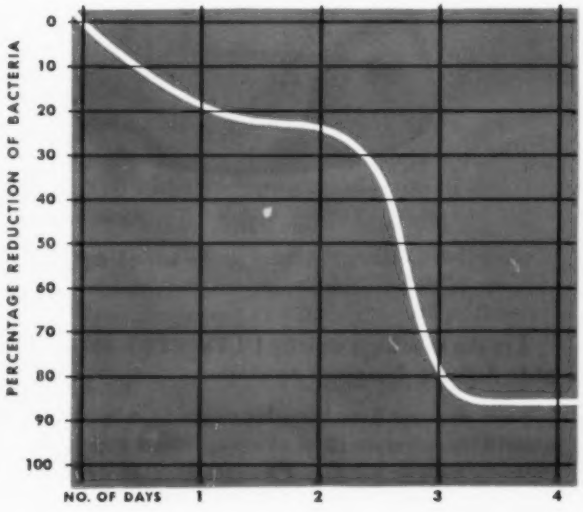



**CHART No. 2.** Percentage reduction in resident bacteria on hands with continuous daily use of "DYSEPT" diluted 1:1 with water for 4 consecutive days. Again, tests actually ran over 5-day period. "Zero" days represents bacterial population before use of "DYSEPT."




## NOTE THESE FACTS ABOUT THE USE OF "DYSEPT"

**"DYSEPT,"** containing 1% hexachlorophene to the total volume, leaves an invisible film not removed by rinsing which, with application one to three times daily for at least five days a week, reduces bacterial skin flora to about 5% of the usual amount and maintains that level. It has been found to reduce surgical scrub-up contact time with daily use. "DYSEPT" is non-toxic and non-irritating, and acts effectively even when diluted with water. A clinical brochure, with laboratory reports, suggestions for using and other technical data, may be obtained by mailing the coupon. "DYSEPT" is available through all Davies-Young distributors.

**"DYSEPT"**
**with hexachlorophene**
**A product of**
**THE DAVIES-YOUNG SOAP CO.**
**DAYTON, OHIO**

*MAIL THE COUPON FOR SAMPLE AND DETAILS*

SSC-250

THE DAVIES-YOUNG SOAP COMPANY
BOX 995, DAYTON 1, OHIO

Please send free sample of "DYSEPT" and clinical brochure giving complete information.

NAME _____

ADDRESS _____

CITY _____

STATE _____

when
**WEIGHT**
is important

Try the new high density ULTRAWET SK bead. Another tailor-made Atlantic detergent developed especially for the compounder.

Now you can have the advantages of a bead in dry mixing detergents without materially affecting the weight of the product you normally pack in your container. With high density ULTRAWET SK you have a product which is free-flowing even in humid weather . . . easier and more uniform in mixing . . . lighter in color with improved appearance in your finished product.

Where increased bulk is important, regular ULTRAWET SK is the answer to obtain the above advantages in dry mixing. You'll like these *dedusted* beads that *cost you no more.*

These are just two of the Atlantic ULTRAWETS—a family of alkyl aryl sulfonates tailor-made for particular jobs. We'll be glad to send you a brochure which will give you the facts about the whole ULTRAWET family. The Atlantic Refining Company, Chemical Products Section, 260 S. Broad St., Philadelphia 1, Pa.

**ATLANTIC**

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# Why pay freight on Water?

## CUT YOUR SOAP COST WITH PECK'S FLO-CROWN

### While giving your customers a Tailor-Made product...

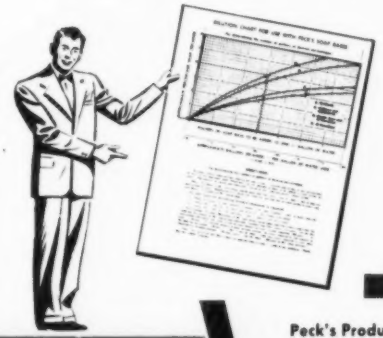
Peck's Flo-Crown Multi-Purpose Soap Base is a quality product that helps you control costs . . . puts a better profit base under your soap sales.

Using Peck's Dilution Chart for mixing Flo-Crown you accurately control your own formulations to assure quality solutions tailor-made to your customers' needs. Flo-Crown dissolves readily into a clear amber soap that *keeps* its clarity. This laboratory controlled corn oil soap base is so easy to use and the savings are so great that you can offer your liquid soaps at attractive prices and still make a nice profit.

***Big Savings in Freight*** . . . because you pay on soap base only . . . not on water. You make your own solutions as needed right in your own plant.

***Takes Less Storage Space***—One barrel of Peck's Flo-Crown (75% to 80%) makes five barrels of quality liquid soap. There's fewer barrels to move . . . fewer to store. So there's less labor and more room.

***Gives Tailor-Made Flexibility***—Use Flo-Crown for a variety of soap solutions of desired strengths as well as a base for pine oil disinfectants. Make your own formulas to meet the specific preferences of your trade . . . and *do it at a saving.*



## FREE

**Peck's Handy Dilution Chart**

**Accurately computed. Makes it easy for anyone to mix Flo-Crown for any desired percentage. Send for your chart now. Just mail the coupon.**

SINCE 1918

# Peck's PRODUCTS COMPANY

MANUFACTURERS OF SOAPS, DETERGENTS, SANITARY PRODUCTS

610 E. CLARENCE, ST. LOUIS 15, MO.

Peck's Products Co.
610 E. Clarence Ave.
St. Louis 15, Missouri

☐ Send the Peck Dilution Chart.

☐ Send prices and other information about Flo-Crown and other Peck's Products.

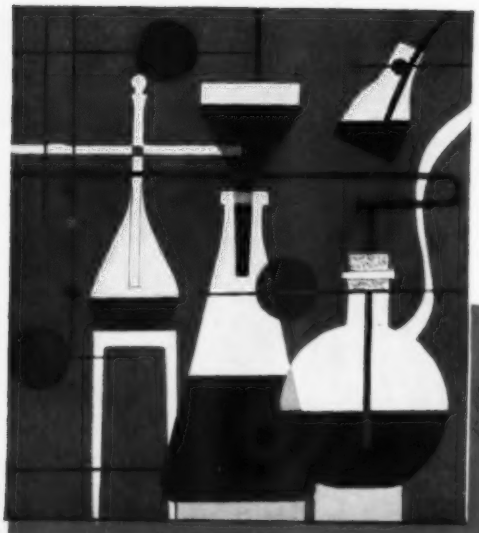
Name .....

Firm .....

Street .....

City .....

Zone ..... State .....



# Today's Research...

**STABLE**—Free from odors caused by impurities, Verona chemicals carry through the life of *your* products without undesirable change in character.

**ODOR NOTES** in Verona aromatics—by prolonging the *scent* life of your products—work to your advantage at the point of sale. They please the prospective customer and add sales appeal to the soap, cream, powder, perfume or toilet water that contains them.

CYCLAMAL
ROSANOL
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JASMINOL
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RESEDALIA
ALPHA AMYL
CINNAMIC ALDEHYDE

REMEMBER...
The Scent
Sells
The Product

# Tomorrow's Success!

VERONA

AROMATICS DIVISION

**VERONA CHEMICAL COMPANY**

26 VERONA AVENUE, NEWARK 4, NEW JERSEY

# There's profit for you in this all-purpose detergent

# SANTOMERSE Nº 1

Santomerse No. 1 is an all-purpose detergent and wetting agent able to deliver the *qualities you need* to make your products sell and sell again.

Here are the facts that prove this statement:

**Santomerse No. 1**, an excellent detergent in hard or soft water.

**Santomerse No. 1** is a rapid and thorough wetter.

**Santomerse No. 1** reduces surface and interfacial tensions.

**Santomerse No. 1** has high stability to acids and alkalis.

**Santomerse No. 1** provides fast penetration.

**Santomerse No. 1** has high resistance to all metallic ions.

**Santomerse No. 1** has rapid, free-rinsing properties.

**Santomerse No. 1** makes abundant suds, even in salt water.

**Santomerse No. 1** combines cleaning action, wetting, dispersing, emulsifying, penetrating — all in one product.

Use the qualities of Santomerse No. 1 to increase your sales, your customer satisfaction, your profits. For technical information and quotations, mail the coupon or contact the nearest Monsanto Sales Office. MONSANTO CHEMICAL COMPANY, Phosphate Division, 1777-A South Second Street, St. Louis 4, Missouri.

* * *

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

**MONSANTO SYNTHETIC DETERGENTS AND WETTING AGENTS**

Santomerse* No. 1
Santomerse No. 3
Santomerse No. 3 (Paste)
Santomerse 30X
Santomerse D
Santomerse S
Sterox* CD
Sterox SE
Sterox SK
Sterox 5
Sterox 6

*Reg. U. S. Pat. Off.

MONSANTO CHEMICALS

MONSANTO CHEMICAL COMPANY
Phosphate Division
1777-A South Second Street, St. Louis 4, Missouri

Please send technical information and quotations on Santomerse No. 1. Also, send data on .....

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SERVING INDUSTRY . . . WHICH SERVES MANKIND

# "73 Inquiries in Two Weeks"*

The field of industrial and institutional sanitation is a highly *under*-developed market.

A survey of some fifteen thousand establishments shows that only one in eight firms give more than passing attention to sanitation maintenance.

MODERN SANITATION reaches the men who administer the job, more than thirteen thousand of them.

MODERN SANITATION focuses attention on the problem and each month points authoritative articles on how to do it better at low cost.

Here is a really large and growing market. If you want to sell the cream of the industrial and institutional user—the pages of MODERN SANITATION point the way.

* *Wrote one advertiser. Name available on request.*

**MODERN SANITATION . . . specializing in covering the field of industrial and institutional sanitation and maintenance.**

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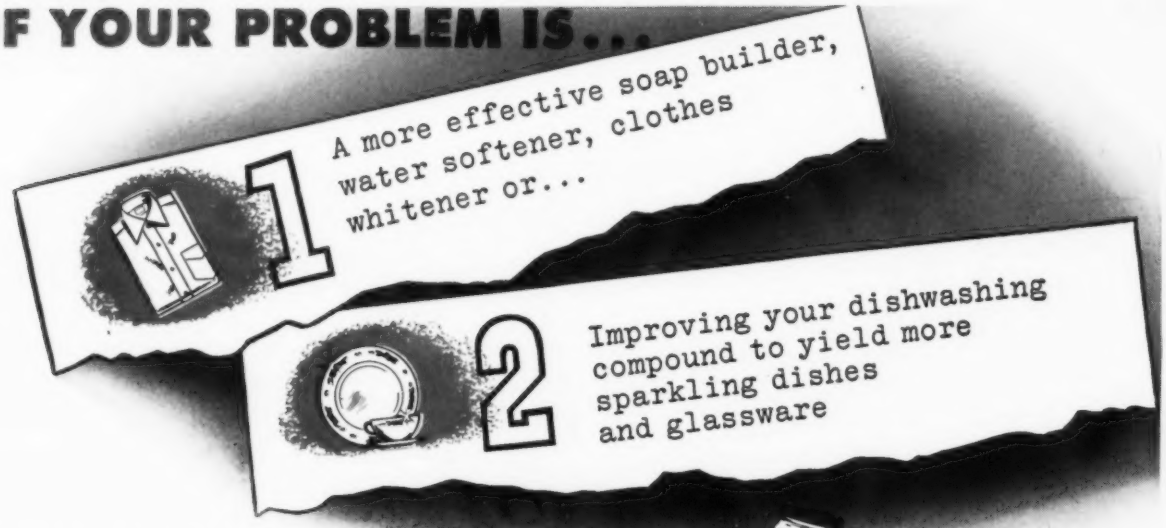
**855 Ave. of the Americas** **New York 1, N. Y.**

# IF YOUR PROBLEM IS...


1
A more effective soap builder, water softener, clothes whitener or...
2
Improving your dishwashing compound to yield more sparkling dishes and glassware

# SEND FOR THIS SAMPLE AND BULLETIN

## BLOCKSON TETRASODIUM PYROPHOSPHATE ANHYDROUS

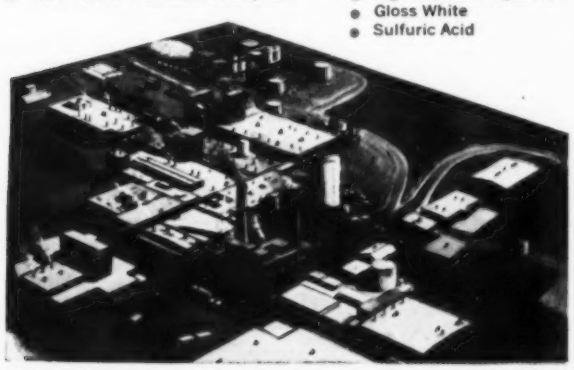
FORMULA: $Na_4P_2O_7$
STRENGTH: $P_2O_5$ 53% pH of 1% solution 10.2
SOLUBILITY: 75° F 7.5 parts in 100 parts water
150° F 24 parts in 100 parts water

★ An ideal soap builder, BLOCKSON Tetrasodium Pyrophosphate enhances the quality and quantity of suds *without increase in causticity*. Softens hard water. Stabilizes dirt suspensions to prevent redeposition on fabrics. Also prevents yellowing from iron in the wash water.

In dishwashing compounds it results in sparkling dishes and glassware free from water spots. Now widely used in metal cleaners. Available in rapidly soluble pure white powder or granules. Mail coupon for sample and detailed bulletin.

### OTHER BLOCKSON CHEMICALS

- Sodium Tripolyphosphate, Anhydrous
- Sodium Polyphos
- Sodium Hexametaphosphate
- Sodium Tetraphosphate
- Sodium Silicofluoride
- Trisodium Phosphate, Crystalline
- Chlorinated Trisodium Phosphate
- Trisodium Phosphate, Monohydrate
- Disodium Phosphate Anhydrous
- Disodium Phosphate, Crystalline
- Monosodium Phosphate, Anhydrous
- Monosodium Phosphate, Monohydrate
- Sodium Acid Pyrophosphate
- Light Alumina Hydrate
- Gloss White
- Sulfuric Acid



*On this 200-acre site, an hour from the nation's railway hub, the vast BLOCKSON organization is coordinated into a closely knit group under intimate executive supervision for prompt service to American industry, large and small.*

**BLOCKSON CHEMICALS**

BLOCKSON CHEMICAL CO., Joliet, Illinois
Send bulletin on Blockson Tetrasodium Pyrophosphate
☐ Include sample ☐ Powdered ☐ Granular

Name.....Title.....
Company.....Street.....
City.....Zone....State.....

# Now Available . . .

# "SOAPS and DETERGENTS"

*by E. G. Thomssen and J. W. McCutcheon*

CONTENTS

**Chapter 1**—RAW MATERIALS—Fats, oils, fatty acids, alkalis, builders, etc. Methods and processes involved in fat and oil processing, refining, bleaching, etc.; fat splitting, saponification, hydrogenation, etc.

**Chapter 2**—MACHINERY AND EQUIPMENT—Types and uses of soap plant equipment. Selection of equipment as to material of construction, safety, capacity and efficiency.

**Chapter 3**—SOAP MAKING METHODS—Practical description of soap making processes, full boiled, semi-boiled cold process, potash soaps, spray processes, etc.

**Chapter 4**— SOAP PRODUCTS — Every known type of soap is described, considering raw materials, manufacture, characteristics, uses, etc.

**Chapter 5**—PERFUMING & COLORING SOAP—Action of soap or alkali, light and air on some of the common aromatics. Classification of perfumes.

**Chapter 6**—GLYCERINE RECOVERY AND REFINING—Recovery methods for glycerine. Continuous glycerine distillation. Fat splitting methods, fatty acids distillation and refining, and allied processes.

**Chapter 7**—SYNTHETIC DETERGENTS—Alcohol sulfates, alkyl aryl sulfates, alkyl sulfonates, sulfated sulfonated amides, esters, and amines. Evaluation and classification of the detergents.

**Chapter 8**—ANALYTICAL METHODS—Sampling and chemical analysis for control during manufacture; analysis of finished products.

**APPENDIX**

*Send Check with Order*

**TEAR OFF AND MAIL**

MAC NAIR-DORLAND CO.
254 West 31st Street,
New York 1, N. Y.

Enclosed is our check for $9.00 (Foreign and Canada $9.50) covering a copy of SOAPS AND DETERGENTS. It is understood that we may return the book within ten days for a full refund.

COMPANY .....

ADDRESS .....

BY .....

F A M O U S

## Caustic Comments

A famous author-humorist had finished an after-dinner speech. The next speaker, an attorney, rose, shoved his hands deep into his pockets, as was his habit, and laughingly remarked, "Doesn't it seem a little unusual that a professional humorist should have to try so hard to be funny?"

Drawled the humorist in a caustic manner, "And doesn't it seem a little unusual that a lawyer should have his hands in his *own* pockets?"

# Dow

*ONE OF MANY DOW CHEMICALS SERVING AMERICAN INDUSTRY*

# Caustic Soda

**We have a CAUSTIC message also:**

**To better serve industry, Dow has unequaled distributing facilities . . .**

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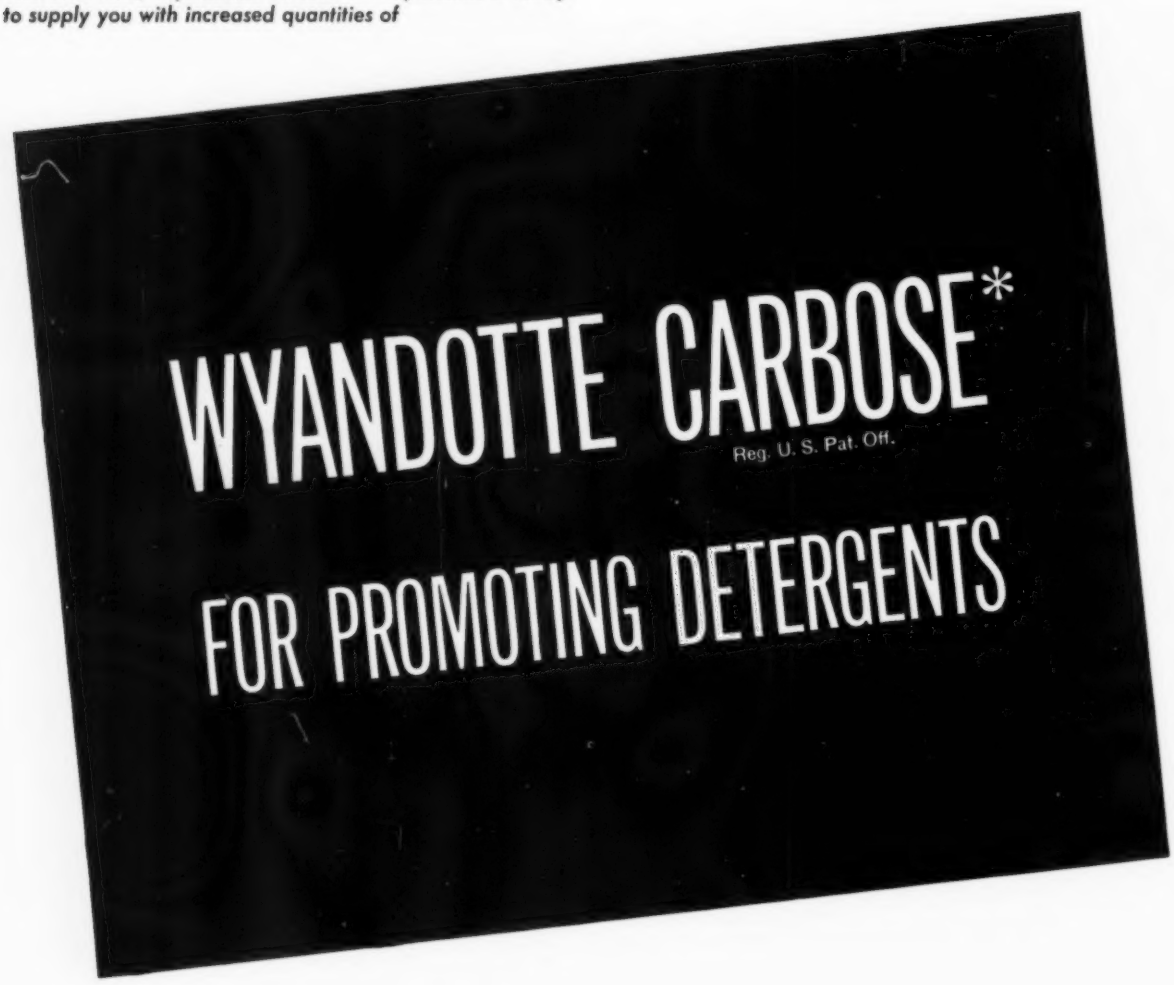


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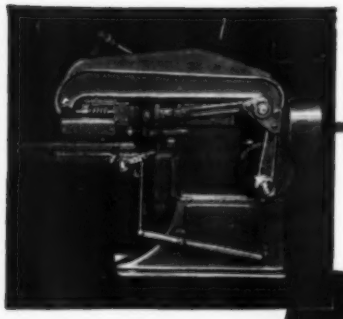

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**Type K Duplex Press**

Applications same as Type K Simplex. Presses two cakes simultaneously. Speeds up to 250 cakes per minute.

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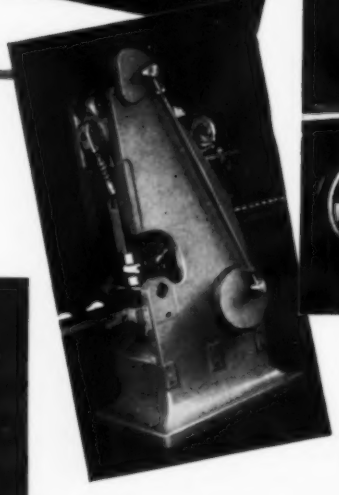

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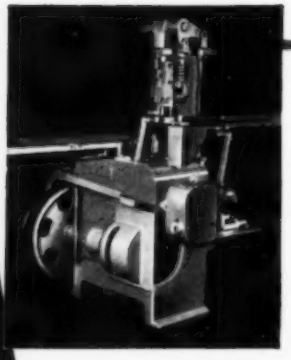

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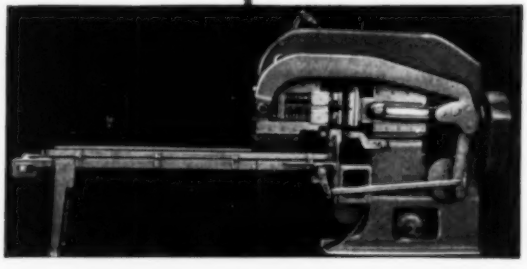

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# AS THE EDITOR SEES IT

SOAP sales volume continued at the high 1948 level in 1949, but in terms of dollars a 17 percent drop was noted during 1949, according to a report at the recent meeting of the Association of American Soap & Glycerine Producers. These findings by the A. C. Nielsen Co. showed that the housewife fared better price-wise on soaps than on the average grocery store product in 1949 as compared with 1948. (Page Senator Gillette and Representative Celler!)

The report also pointed out that soap sales volume in the ten-year period, 1940-50, was up by 20 percent, compared to an increase of 117 percent in dollar volume. Lest that latter item frighten anyone, is it necessary to point out that nearly all costs: wages, salaries, raw materials, packaging materials and equipment of all types, to mention only a few items, have soared even further above the figures for 1940? If further evidence is necessary may we remind that the Walsh-Healey Act just has been amended to raise the minimum wage rate in the soap industry from 40 cents an hour to 95 cents an hour?

NEW facilities for testing soaps, disinfectants, waxes, polishes, insecticides, paints and other maintenance materials which they buy are being set up by the State of North Carolina under the auspices of its Division of Purchase and Contract. According to the Governor, W. Kerr Scott, in making this announcement, the testing program is aimed to secure the maximum value for tax dollars spent for maintenance supplies.

Basically, the idea is an excellent one. If carried out as described, such a system can weed out sub-quality materials and others which fail to meet samples. It could aid materially in preventing chiseling if honestly administered in line with good specifications. But, the job is a big one, far more extensive and exacting than might appear at first blush. We wonder if the governor appreciates what he has got his Division of Purchase in for.

IF ingredient statements on labels of small-package household products, soaps, cleansers, chemical, drug and allied specialties, have any genuine value, we yet have failed to see it demonstrated. Outside of tipping off those who aspire to enter the market and may be guided apace by what the old, established products state on their labels, our estimate of label ingredient statements by and large has been one of wasted effort. What you cannot read and interpret, you cannot understand. Possibly law enforcement officials can and do understand chemical phraseology and other technical label statements, but are labels printed for them or for supposed public guidance and protection?

Legislation in Kentucky to require ingredient statements on soaps, detergents, cleansers, et al, is another recent case in point, much like one of the bills proposed in Washington late last year by Senator Gillette of Iowa. Just what is the purpose of such legislation? Is it honestly intended to enlighten the public? Or is it in reality a spear to stick in the hides of soap and cleanser manufacturers?

If it is intended to protect the public, we feel that it is wholly useless. What does the average user know about the chemistry or chemical names of the ingredients of soaps, cleansers, synthetic detergents? Even if printed on the label, they would be meaningless. And for most of these ingredients, there are no common names, no names or designations understandable to household users. So, is it any wonder that many

manufacturers are suspicious of the true purpose behind such legislation, or feel that it is conceived in ignorance?

THE world—outside of the U. S.—shortage of fats and oils continues, according to J. C. A. Faure of Unilever, speaking before the recent meeting of the soap industry in New York. Although the speaker indicated that the scarcity of dollars is one cause of the world shortage of fats and oils, the dearth of other currencies, both hard and soft, is contributing to this over-all problem. Production seems to be approaching pre-war levels, but in the meantime population increases have enlarged demand, so that per capita consumption is far from "normal." With U. S. production currently higher, and the possibility of exports going lower, the riddle of which is shorter, dollars or fats seems to epitomize the situation.

On the other hand, we hear now that the period of "extreme shortages of fats and oils" is over in Europe. This observation by Dr. L. J. Norton who recently visited eight European countries for the Department of Agriculture indicates that devaluation will make continued heavy purchases of U. S. fats and oils exports under E.C.A. much more difficult.

WITH the resignation of Charles Luckman as president of the American Lever company last month, a short, but exciting era in the soap industry came to a sudden end. The barrage of personal publicity which accompanied Mr. Luckman's rapid rise to the Lever presidency and his incumbency thereof, his numerous public utterances and his political activities threw something of a jolt into old-timers of the industry who had for years made their soap in kettles and not in the newspapers. We imagine that the heads of Unilever abroad were no less amazed upon occasion. The Luckman tenure of office at Lever was predicted to be short by some soapers as far back as a year ago, and his resignation last month was not unexpected.

When Lever American sales started to drop off last year, the danger signal for Mr. Luckman already was aloft. When eight hundred out of nine hundred employes at the company's main office in Cambridge, Mass. were fired summarily in a move to New York,—many of them with the firm for over twenty years,—rumors of internal confusion and demoralization were numerous. So, when Sir Geoffrey Heyworth of the parent company arrived from London last month, most everybody guessed why he had come. And, thus the excitement ended. So, what's left to gossip about now? Atomic energy and politics?

TO activate a law passed last year in Mississippi to build a factory for the manufacture of disinfectants, insecticides, soaps and cleansers for state institutional use, a bill is now before the legislature of that state to appropriate $175,000. This appropriation inadvertently, or purposely, was omitted from the original law. If the new bill passes, Mississippi will be in the cleanser and sanitary chemical business, a position which we fear will be looked upon as slightly incongruous in the light of most political doctrines emanating from the state. If this is not a step toward socialism, then we miss our guess.

Not too many years hence, we have a hunch that Mississippi will discover that there is more to manufacturing soaps, cleansers, and the like than meets the eye. Its officials may discover why they have been paying higher prices for some items than they believe they should pay. Although the size of the plant must be relatively small of necessity in view of the limits of the proposed appropriation to establish and equip it,—$150,000,—we believe that the potential complications under political auspices eventually may find all parties concerned sadder, but wiser.

NEIL H. McELROY, President

E. W. WILSON, Vice-President

ROY W. PEET, Secretary

# Soap Ass'n. Meets, Elects N. H. McElroy

NEIL H. McELROY, president of Procter & Gamble Co., Cincinnati, was elected president of the Association of American Soap & Glycerine Producers at its 23rd annual meeting, held Jan. 25-26 at the Hotel Plaza, New York. With a registration figure of approximately 630, the two-day convention was the largest and, in the opinion of many, the best meeting ever held by the AASGP. Vice-president for central states, Mr. McElroy was acting president for the meeting in place of Charles Luckman, former AASGP president, who had left Lever Brothers Co., which he headed, during the week before the convention. E. W. Wilson of Armour & Co., a director of the Association, was named vice-president for the central states, succeeding Mr. McElroy. The office of vice-president for the east, held last year by E. H. Little of Colgate-Palmolive-Peet Co., Jersey City, N. J., and who continues as a director, has been left vacant.

New board members chosen at the meeting are J. O. Brownell of Lever Brothers Co., New York, chairman of the 1950 convention committee; Selden Humphries of Tennessee Soap Co., Memphis; A. G. Peck of Peck's Products Co., St. Louis; and E. J. Sella of Great Stuff Products Co., West New York, N. J. They fill vacancies on the board left by retiring directors Luckman and G. F. Fulton of Beach Soap Co., Lawrence, Mass. L. J. Evans of Eavenson Soap Co., Camden, N. J., and E. B. Hurlburt, J. B. Williams Co., Glastonbury, Conn., resigned from the board during the year. E. W. Wilson, the new vice-president for the central states, was on the board as a replacement for D. M. Flick of Armour & Co., Chicago, who had also resigned. All other officers and directors were reelected.

Division chairmen and vice-chairman elected at the convention are: Glycerine, N. N. Dalton, Association consultant on glycerine, Kansas City, chairman, and A. W. Schubert of Emery Industries, Cincinnati, vice-chairman; Specialty Soap, Russell H. Young, Davies-Young Soap Co., Dayton, chairman, J. L. Brenn, Huntington Laboratories, Huntington, Ind., vice-chairman; Industrial Soap, George Perkins, Perkins Soap Co., Springfield, Mass., chairman, and Arthur Fry, Fry Brothers, Cincinnati, vice-chairman.

Other meeting highlights included a review of the world situation on fats and oils by J. C. A. Faure, purchasing director of Unilever, Ltd., London; a discussion in the form of a debate of the merits of soaps vs. synthetic detergents for industrial applications and a review of soap sales during the past year. Also covered were the domestic situation on fats and oils; developments in synthetic detergents; the economic outlook by E. G. Nourse, formerly chairman of President Truman's Council of Economic Advisors and vice-president of Brookings Institute, Washington, D. C.; government research on animal fats, and labor relations by Dr. Leo Wol-

**P. & G. president succeeds Luckman as head of Assn. Amer. Soap & Glycerine Producers. World fats short; soap prices down as volume increases, 23rd meeting hears. Soaps versus synthetics debated.**

man. Secretary of Agriculture Charles F. Brannan and Dr. Leonard A. Scheele, Surgeon General, U. S. Public Health Service, spoke at the Thursday and Wednesday luncheons, respectively. The banquet speaker, substituting for Brig. Gen. Carlos P. Romulo, Philippine Ambassador to the U. S. and former president of the U.N. General Assembly, was Gen. Frank Howley, U. S. Army commanding officer in Berlin, Germany, for four years.

### *McElroy's President's Address*

THE meeting opened on the morning of Jan. 25, with E. A. Moss of Swift & Co., Chicago, presiding. He introduced Neil H. McElroy, acting president of the association, who gave an address of welcome and review of the year. In his address, Mr. McElroy indicated that soap and synthetic detergent sales in 1949 would amount to around 3,690,000,000 pounds, based on data compiled by the AASGP for the first nine months of the year. The 1949 soap sales figure, he stated, compares with "a prewar five-year average, 1935-39, of 3,185,000,000 pounds, or an increase of about 16 per cent in pounds sold. On a per capita basis, sales in 1949 are estimated at 24.7 pounds, compared with the 1935-39 five-year average of 24.6 pounds, or an increase of 1/10 of a pound per person." In a review of government activities affecting the soap industry during the past year, including the removal of the last government controls on raw materials and production of the soap industry, Mr. McElroy commented briefly on the Senate hearings on fats and oils, the Federal Trade Commission's suit against three soap companies attacking the warehouse stock protection policy, which he said "has been customary not only in this (the soap) industry but throughout the whole grocery manufacturing industry for decades," and the Walsh-Healey Act revision raising the minimum hourly wage in the soap industry from 40 to 95 cents. (See Pg. 59.)

A. G. PECK, Director

Association activities referred to by Mr. McElroy were expansion of membership to include companies making or selling synthetic detergents; the establishment of the three divisions within the Association; the work of the various committees of the AASGP, with particular emphasis on the activities of the Legislative Committee, which was successful in having the National Conference of Weights and Measures Officials reverse its 1947 recommendation that bar soaps should be marked with net weight. Membership in the AASGP now stands at 161, according to Mr. McElroy, including these seven new members that manufacture synthetic detergents: Oronite Chemical Co., Atlantic Refining Co., Solvay Sales Co.,

E. J. SELLA, Director

National Aniline & Film Corp., Purex Corp., Alrose Chemical Co. and Ultra Chemical Co. Mr. McElroy singled out for praise the work of Roy Peet, Association manager and secretary and his staff.

The "Business Outlook for 1950" was the title of the talk by Edwin G. Nourse, former chairman of the President's Council of Economic Advisors and vice-president of Brookings Institute, Washington, D. C. He stated that while "the immediate outlook for business in 1950 is good . . . (there are) some factors in the industrial and marketing situation that will require watching, not merely in the last quarter of the year but as early as the second quarter." He expressed himself as ". . . not happy when I see Government slipping back into deficits as a way of life in a period when production and employment are high." Mr. Nourse added, "It would no doubt be impossible to avoid some deficit in the midst of a cold war, but there should be a vigorous and systematic program of reducing outgo and increasing income which will get us back to a balanced budget at the earliest practical time."

A discussion of "Market Research — Soap Industry Picture" by

SELDEN HUMPHRIES, Director

Philip Stomberg of A. C. Nielsen Co., New York, the next address, a condensed version of which begins on page 50 of this issue, revealed the growth of soap sales in terms of dollars and volume in recent years.

The group luncheon on the first day of the meeting, Jan. 25, was presided over by George A. Wrisley of Allen B. Wrisley Co., Chicago. He introduced the guest speaker, Dr. Leonard A. Scheele, M.D., Surgeon-General, U. S. Public Health Service, Federal Security Agency, who discussed "Industrial Hygiene—A New Frontier in Public Health." In his address Dr. Scheele stated that the soap

industry has "a much more than academic interest in the subject." He made a plea for industry to promote better health among its own employees and to set examples of good practice for those who are lagging.

Following closed meetings of the membership of the AASGP and its directors, during which reports of committees and the Association manager were given, and directors were elected, the first of the three division meetings was held.

### *Glycerine Division Meets*

THE Glycerine Division meeting, presided over by N. N. Dalton, Association glycerine consultant,

JOHN O. BROWNELL, Director

opened with a review of the glycerine situation by Dr. Dalton. He said that glycerine is in about the same position as a year ago. Synthetic glycerine production has helped maintain the balance between supply and demand, and stocks are higher (end of 1949) than they were at the same time in 1948 as a result of larger imports. Demand continues strong for glycerine, Dr. Dalton stated, adding that users are absorbing about all the glycerine that can be produced and nearly twice as much of the other poly alcohols as formerly. The reason for continuing glycerine advertising in the present market is that substitutes are being advertised and the committee wants to advertise the fact that "nothing takes the place of glycerine."

In his report on the 1950 research program of the Glycerine Division, C. S. Miner of Miner Research Laboratories, Chicago, pointed out that this year's program is an extension of the one undertaken in 1949. With the formation of the Glycerine Division, the time is ripe to tell of the work that is being done at the research laboratories, Dr. Miner said. The overall planning of the research work rests with the glycerine research committee that holds seven all-day

EDWIN G. NOURSE

meetings each year. The committee is composed of E. W. Randa of Armour & Co., Chicago, chairman; W. A. Peterson of Colgate - Palmolive - Peet Co., Jersey City, N. J.; J. W. Bodman of Lever Brothers Co., New York; N. N. Dalton and D. L. Johnson of Procter & Gamble Co., Cincinnati. Meetings are active and productive of a number of new ideas. As a criterion in its planning the committee tries to outline work that does not overlap that of member companies. Very little work is done on problems relating to production or refining, nor is technical service engaged in to any extent, according to Dr. Miner. One departure from this general policy is the investigation of ion-exchange type resins in glycerine refining. Samples from various manufacturers of the resins are being studied and reported on. This type of work is exceptional, however, it was pointed out.

The glycerine research program is suited to group research because it has as its object the obtaining of basic information about glycerine. Large quantities of glycerine are used as a chemical raw material. In the majority of cases the use of glycerine involves its reaction with acids. Esters include alkyds, synthetic oils, nitro glycerine, etc. Little basic information is available on the esterification reaction, Dr. Miner pointed out. The research program includes a fundamental study of glycerine. It is a long term project in which it is hoped eventually to obtain the kind of information required in formulating new products, for more efficient use of glycerine to make better products and consequently to sell more glycerine.

AGRICULTURE SECY. BRANNAN

Another project is the study of the determination of the solubility of glycerine in sugar. Glycerine is used in many food products. Therefore, it is necessary to know how much of the various kinds of sugars will dissolve in glycerine. The correct information is not now available, although much data of questionable accuracy is circulated. It is hoped eventually to publish the correct information in technical journals.

The problems discussed so far are of a theoretical nature, Dr. Miner explained. In some projects the group is trying to combine the practical with the theoretical. The work on resins is an example, particularly the research on alkyds. The effect of glycerine impurities on the color of alkyds is one such problem. Here an attempt is being made to discover what the impurities are. They are present in small amounts and to classify them chemically it is necessary to use indirect methods. When they are classified chemically it should be possible to say how they get into the resins and how they may be removed. The alkyds are only a single market for

glycerine, and not the only one in the resin field: there is also ester gum, which is a product of esterification of glycerine with an acid. Little work has been done in the past with ester gum, about which it is felt that more should be known. Although there are no definite results at the moment, the group is trying to learn the basic facts about the reaction and then apply the information in the laboratory to making of resins.

A further phase of the fundamental types of research best suited to an industry wide effort is the study of methods of glycerine analysis. Most important is the cooperative work being done with the American Oil Chemists' Society. One of the main problems in analysis has been with the color of glycerine. A paper on the use of the spectro-photometric measurement of color has been published. Research is now underway on the problem of producing a water white glycerine.

Another activity of the research committee is the protection of glycerine from "defamation of character." In line with this work, Dr. Miner cited the case of the bulletin on antifreeze published by the U. S. Bureau of Standards in which it was stated that glycerine was corrosive in character. The committee asked the Bureau of Standards to rerun its tests with glycerine, which it did and found that glycerine was less corrosive than ordinary tap water.

Time was also spent on publicity work, which consisted mainly in making technical information available to those who could best make use of it. An example cited was the translation of Bielstein's sections on glycerine, 300 copies of the 200-page book, which is priced at $2.50, have been sold. Current literary efforts consist in writing a chapter on glycerine for a new American Chemical Society monograph.

In summary, Dr. Miner stated, efforts at the research laboratories are directed towards work that is of value to the whole industry and to important materials such as resins, to finding new applications for glycerine and to publishing as much information as possible to aid users of glycerine.

### *Glycerine Advertising*

THE remainder of the glycerine division meeting program was devoted to discussion of advertising and publicity activities of the group being planned for the coming year. William G. Werner, director of public relations for Procter & Gamble Co., Cincinnati, spoke briefly on industrial advertising and promotion work, pointing out how it differed from standard consumer type advertising. He then introduced Clifford Snape of G. M. Basford Co., New York advertising agency, which has been appointed to handle glycerine advertising and promotion for the AASGP. He reviewed the advertising and promotion efforts of the past year, and turned the meeting over to William Ennis of the Basford company, who outlined plans for the coming year. Mr. Ennis announced the publication of five booklets on glycerine: "Why Glycerine?"; "Why Glycerine for Foods?"; "Why Glycerine for Alkyd Resins and Ester Gums?"; "Why Glycerine for Drugs and Cosmetics?"; "Why Glycerine for Textiles?". The 1950 advertising will be designed to have a basic appeal for specific fields, which are the major glycerine users: drugs and cosmetics; textiles, protective coatings and food. In 1949, 1300 responses were elicited by the advertising and publicity on glycerine, Mr. Ennis stated. In the first month of 1950, 1200 inquiries have been received for booklets. In addition to heavy advertising in the four fields outlined above, there will be 13 small space advertisements on the booklets alone.

Publicity plans for 1950, covered by Joyce Kern, who is handling publicity for the AASGP and G. M. Basford Co., include field work, as a basic part of the program. During the year, it is planned to check with glycerine users for ideas for feature articles, for use in advertising copy, and for publication in "Glycerine Facts." In addition, the information may also be used to answer inquiries. Another phase of the publicity and promotion program calls for representatives of the Glycerine Division to attend technical meetings of glyce-

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Part of the group at the Annual Banquet

# Detergent Developments...

**Soap finds its detergent supremacy challenged during the past decade for the first time in history . . . a summary of the development and characteristics of detergents, including soaps . . . first of a series of three articles**

**By Reynold C. Merrill**
Philadelphia Quartz Company

FOR more than 2,000 years, soap has been the world's standard detergent for cleaning, and only within the past ten years has this supremacy been challenged. In fact, the per capita soap consumption by nations has long been used as a measure of their culture and civilization. The manufacture of many new types of synthetic detergents from petroleum as well as from naturally occurring fats and oils has now reached the status of a major chemical industry. The social and economic consequences of this technological advance are more or less obvious and far reaching.

The Roman historian, Pliny the Elder, describes the manufacture of soap by the Gauls in the first century A.D. A soft potash soap made by heating goat's tallow with beech ashes was converted to a hard soda soap by repeated treatment with salt. Later wood ashes were replaced by ashes from sea plants such as kelp. Discovery of a well equipped soap factory in the ruins of Pompeii, which was destroyed in 79 A.D., shows that this process was fairly well advanced at that time. Soap was manufactured in the eighth century in Italy and Spain, and beginning about the fourteenth century in France and England.

The classic research of M. Chevreul during the early part of the nineteenth century on the constitution of fats and oils contributed greatly to the knowledge of the soap making process. Mixtures of tallow and coconut and palm oils were at that time, as at present, the standard raw materials for soap manufacture. Development at about the same time of the LeBlanc process for making soda ash from sodium chloride assured a plentiful supply of the relatively inexpensive alkali needed. Caustic soda was made by reacting the soda ash with lime. Later the LeBlanc process was supplanted to a large extent by the more efficient and economical Solvay process. Caustic soda and potash now used by the soap industry are obtained mainly by electrolysis of brines, although considerable amounts are still made by the Solvay method.

The next class of detergents to be used were the sulfated oils described by John Mercer in 1846. These were developed in an effort to improve the dyeing of madder turkey reds. However, little use was made of these materials until about 1875 when castor oil was first sulfated. These were fairly good detergents and wetting agents. About 1924 the degree of sulfation was increased, giving a better wetting agent but a poorer detergent. During the period 1912 to 1920 sulfonated propyl or butyl naphthalene derivates become commercially available. These products, developed primarily in Germany under the trade name of *Nekals*, are also good wetting agents, but poor detergents. About 1930 the I. G. Farbenindustrie placed on the market the synthetic detergent, *Igepon A*, and shortly thereafter *Igepon T* which had better resistance to acid and alkali. These were made by the reaction of fatty acids with amino sulfonic acids, and although expensive were used to some extent by the textile industry.

One of the outstanding developments in the history of synthetic detergents also occurred about 1931 with the introduction of the sodium salts of long chain fatty alcohol sulfates on a commercial scale by the Deutsche Hydrierwerke A. G. Their process was developed by W. Schrauth and associates. This development was made possible by the discovery of a catalyst which enabled the economical production of fatty alcohols from fats and oils. Suitable hydrogenation catalysts and techniques were discovered at about the same time by Norman of H. Th. Bohme A. G.; W. A. Lazier of DuPont, and H. Adkins and K. Folkers of the University of Wisconsin, as well as by Schrauth. A product prepared by sulfating coconut oil fatty alcohols was promptly imported and introduced in the United States under the trade name, *Gardinol*, by the DuPont Co., Procter & Gamble, and the National Aniline Division of the Allied Chemical & Dye Corp. Later products of this type were produced by DuPont and Procter & Gamble under patents assigned to their jointly owned subsidiary, the Hyalsol Corporation, by H. Bertsch and others.

The second outstanding development of the 1930's was the commercial production of relatively inexpensive synthetic detergents from petroleum. The detergents based upon petroleum as a raw material which are produced in largest quantity are alkyl

aryl sulfonates, such as dodecyl benzene sodium sulfonates. Some of the first products of this type were produced commercially by the National Aniline Division of the Allied Chemical & Dye Corp. under the trade name, *Nacconol*, using processes developed and patented by L. H. Flett and coworkers.

### Soap Production

THE production of sodium soaps in the United States during 1947 was 2.792 billion pounds valued at about a half billion dollars. Sales of soap more than doubled in value during the years from 1921 to 1946. Since the soap production in 1939 was valued at $300 million, most of this gain occurred in the past ten years. Peak output of soap was in 1944 when 3.271 billion pounds were produced. The production of liquid soaps during 1947 was 2.64 million gallons. In 1947, the Census value of U. S. soaps at manufacturers' prices was almost a billion dollars.

The production of synthetic detergents or surface active agents (excluding soaps) in 1929 was 29 million pounds which consisted almost exclusively of sulfated oils used in the textile industry. Ten years later the output of these chemicals had increased to 67 million pounds and new types of products were produced in significant commercial amounts. Production totaled 94 million pounds of pure active organic ingredient in 1941. In 1944 production had reached 153 million pounds, nearly half of which were new type detergents based on cyclic compounds. By 1946 production was 242 million pounds. The production of surface active agents thus was eightfold greater in 1946 than in 1929 and nineteen times more valuable in sales dollars.

During the first six months of 1948, 15 leading manufacturers produced 166 million pounds of synthetic detergents valued at $51 million. The rapid growth of this industry is illustrated by the 40% increase in volume and 22% increase in value for the second quarter of 1948 as compared with the first three months. Although the sales of soap for the first six months of 1948 were about 3% less than those of the corresponding period of 1947, the soap industry felt that this did not necessarily indicate a replacement of soap by the new synthetic detergents. The usual year to year variations are much greater than 2 or 3%. The production of soaps and synthetic detergents since 1935 is summarized in Table 1.

**Table I.** Production of Soaps and Synthetic Detergents

| *Year* | *Soaps** | *Synthetic Detergents** |
|---|---|---|
| 1935 | 2,287 | 44.9 |
| 1936 | 2,494 | 53.0 |
| 1937 | 2,395 | 52.7 |
| 1938 | 2,562 | 49.5 |
| 1939 | 2,739 | 66.8 |
| 1940 | 2,628 | 65.5 |
| 1941 | 3,118 | 93.8 |
| 1942 | 2,907 | 91.1 |
| 1943 | 2,806 | 115.1 |
| 1944 | 3,271 | 152.6 |
| 1945 | 2,858 | 184.4 |
| 1946 | 2,312 | 239.2 |
| 1947 | 2,792 | 401.7 |

* Millions of pounds.

The tonnage of each of the various types of synthetic surface active agents is summarized in Table II.

The use of alkaline inorganic detergents, such as sodium metasilicate and tetrasodium pyrophosphate, in laundries, metal cleaning, machine, and bottle washing and in milk processing and oil refining has increased considerably in recent years. Apparently no data are available on this application of alkaline salts since 1939 when their production for this use was valued at nearly $40 million or double their value of 1923.

### Soap Process Trends

MOST commercial soaps are made from fats and oils by reaction with sodium or potassium hydroxide. Tallow, grease, coconut and palm oils are the main raw materials, with lesser amounts of babassu and palm kernel oil being used. Tallow soaps which are largely palmitates and stearates are used in hot water (60°C or over) so that they are sufficiently soluble to be effective. Coconut, palm kernel and babassu oil soaps contain a high proportion of the shorter-chain laurates and are readily soluble at ordinary temperatures. Ordinary household toilet and laundry soaps are usually mixtures of tallow and coconut oil, usually containing 60 to 85% of the former.

Most soaps are now made by the traditional full-boiled or settled process which for hundreds of years has been the standard method. It involves boiling with several strengths of alkali, salting out the soap, several washings, boilings, and salting outs to remove impurities, glycerin and lye, and finally settling the mixture to obtain a finished "neat" soap containing about 30% water. A relatively small amount of soap is produced by the cold or semi-boiled processes which involve mixing the oil, fat and required alkali, usually heating, and leaving the by-

**Table II.** Production of Surface Active Agents in 1946

| Cyclic | *Production in millions of pounds* |
|---|---|
| Quaternary ammonium compounds | 0.999 |
| Sulfated and sulfonated benzenes | 45.868 |
| Sulfated and sulfonated naphthalenes | 6.681 |
| Petroleum sulfonates | 36.598 |
| Other cyclic surface active compounds | 4.807 |
| Total cyclic | 94.953 |
| Acyclic | |
| Nitrogen containing compounds (87% amides) | 3.627 |
| Polyhydric alcohols, esters and ethers | 10.148 |
| Organic salts of fatty acids | 1.092 |
| Sulfated and sulfonated acyclics * | 129.379 |
| Total Acyclic | 144.244 |
| Grand Total | 239.197 |

* 4% acids, 8% amides, 13% esters, 30% oils, fats and waxes and 45% other acyclic sulfated compounds or not specified.

product glycerine, as well as impurities in the soap.

Within recent years two types of continuous processes have been developed and used on a full plant scale which reduce the time required for soap making from several days to about two hours. Processes used by the Procter & Gamble and Colgate-Palmolive-Peet Companies first split the fat or oil into fatty acids and glycerine by countercurrent hydrolysis at temperatures around 260° C., and pressures of 600 pounds per square inch in the presence of a catalyst such as zinc soaps. These may be prepared by adding zinc oxide to the fatty acid reaction mixture.

The fatty acids are distilled and neutralized with the requisite amount of sodium or potassium hydroxide solution in high speed mixers. Continuous washing removes the glycerine thus enabling the reversible hydrolysis reaction to proceed essentially to completion. The increased solubility of water in fats and oils with increase in temperature and pressure from 0.1% at room temperature, to 3.6% at 150° C., and 25% at 250° C. permits the reaction to occur in a homogenous system. Comparison of this process with the old soap boiling procedure shows it gives a soap of improved color, a saving of time and space, improved recovery of glycerine and greater flexibility of operation.

### Fatty Acid Developments

FOR many years fatty acids have been prepared, especially in Europe, from glyceride fats and oils by hydrolysis in autoclaves at pressures of 150 pounds per square inch in the presence of lime, or magnesium or zinc oxide catalysts, or at 400 pounds without a catalyst. The Krebitz process produces fatty acids by washing insoluble lime soaps prepared from fats to remove glycerine, and adding sulfuric acid to obtain the free fatty acids and insoluble calcium sulfate. Hydrolysis of the glycerides using the enzyme, lipase, from castor seeds as a catalyst has been carried out to some extent in India to obtain fatty acids.

The more successful Twitchell process uses sulfuric acid hydrolysis in the presence of the reaction product of oleic acid, sulfuric acid, and naphthalene. The Twitchell reagent or catalyst is mostly impure 2 - $\beta$ sulfonaphthyl stearic acid and was a forerunner of the Nekal type of wetting agents. The latter process is widely used but only a very minor fraction of the total soap produced has been made from fatty acids. The idea of countercurrent hydrolysis at high pressures was suggested about a century ago by Tilghmann. Successful large scale application of the suggestion had to await the commercial availability of corrosion resistant stainless steels, the modern knowledge of high pressure chemical engineering techniques, and clarification of the physical chemistry of the process.

Fatty acids are purified or separated into fractions having the desired properties by fractional distillation and fractional crystallization from a polar solvent such as acetone or the 90% methyl alcohol—10% water mixture used in Emery Industries' Emersol process. A third method of purifying fats, oils or fatty acids is the Solexol process developed by the M. W. Kellogg Co., which uses a non-polar hydrocarbon such as propane liquified by high pressure as a selective solvent. Unsaturated acids are converted into saturated by hydrogenation in the presence of a nickel catalyst at elevated pressures. Saturated acids may be converted into unsaturated by chlorination and removal of hydrogen chloride at low pressures in the vapor phase in the presence of a catalyst. Fatty acids of almost any desired properties or purity can be obtained using these techniques.

The second type of continuous process involves the manufacture of soap by the usual saponification of fats and oils with aqueous alkalies but the soap and glycerine are separated rapidly in high speed supercentrifuges at forces up to 13,200 times that of gravity instead of relying on the slow separation on standing. A process utilizing these principles, which was developed by Sharples and the Lever Brothers Company, is reported in use at the latter's Baltimore plant.

A recent development is the production of a greatly improved, rapidly soluble, easy lathering, non-warping floating soap by intense mechanical agitation at elevated temperatures and pressures followed by rapid cooling and release of pressure. The crystalline form of the soap thus produced is different from that previously obtained in floating soaps.

### Rosin and Tall Oil Soaps

BOTH gum rosin obtained from living pine trees and wood rosin extracted from the wood or stumps have been used as a constituent of commercial soaps, particularly yellow laundry bars, for many years. About 135 million pounds of rosin are consumed annually for this purpose. Rosin soaps are economical, readily soluble and have some germicidal action but tend to be sticky, susceptible to oxidation, and impart a dark color to soaps, particularly after aging. These difficulties have been largely overcome in recent years by the production of better grades of rosin through improved, continuous extraction and refining processes and modification of the rosin molecule by hydrogenation, dehydrogenation and polymerization. The latter work has been done mainly by research chemists of the Hercules Powder Company. A soap from a modified or "disproportionated" rosin was found particularly suitable during the war as an emulsifying agent in the manufacture of GRS synthetic rubber.

Soaps made by neutralization of fatty acids with mono-, di-or triethanolamine, morpholine, and other amines and organic bases as well as with ammonia are used for special purposes such as shampoos and dry cleaning. These differ from sodium or potassium soaps by being less alkaline in aqueous solution and more soluble in organic liquids. Some are unstable and decompose on evaporation. Such soaps are used as emulsifying agents for the wax and as wetting agents to increase ease of application of water-dispersion self-polishing waxes. Evaporation causes decomposition of the soap and breaking of the emulsion leaving a substantially waterproof wax film.

A source of raw material for making soap is tall oil, a by-product

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# Synthetic Detergents VS.

## A discussion in the form materials by two of the

## Synthetics as Superior Industrial Cleaners

**By John W. McCutcheon**

THE purpose of this discussion is to determine the position of synthetic detergents as compared with soap in the industrial field. By synthetic detergents we mean those non-soap materials which are normally classed as cleaning agents, such as the sodium salts of dodecylbenzene sulfonate, lauryl sulfate, sulfonated monoglycerides, fatty taurides, etc., including a number of nonionic materials such as "Rennex," "Sterox," "Igepal" and "Triton," to mention a few trade names. We will eliminate, as far as possible, consideration of such surface active properties as wetting, dispersing, emulsification, lubrication, etc., except in the rare case in which soap finds use in a major industrial operation because of one or more of the attributes of surface activity. In this way Dr. Snell and I thought we could eliminate much of the shadow boxing from this discussion.

Soap has a large number of drawbacks, but the two chief ones which are worth more consideration than all the others put together, are its inability to exist in acid solution and its precipitation in hard water with the formation of insoluble greasy lime soaps. Synthetic detergents are designed to overcome these hurdles and they do. Of course, there are differences in the degree to which synthetics can accomplish this purpose. However, with the basketful of available types from which one may choose, almost any industrial situation can be met.

In general, the lime salts of synthetics are so soluble that there is no precipitation in normal hard water and therefore no precipitation during rinsing operations. It is in this last operation that the danger lies. Soap itself is a splendid emulsifier. Many soap builders such as the polyphosphates enhance this property so that there is little danger of lime soap deposition during the washing cycle. It is in the rinse that lime soap formation occurs. Lime soaps are sticky water insoluble materials which coat the fibres of textiles and prevent even dyeing. They have the same effect on leather. They dull the gloss on furs, prevent sparkle on glassware and, at the same time, provide a breeding ground for bacteria. They cause the streakiness on cars. They hide the natural sheen on hair. It is easily seen, therefore, why soap has been replaced almost exclusively by synthetics in the textile, leather, fur, dairy and metal cleaning industries. They are superior to soaps for use in commercial hair dressing establishments, in mechanical dish washing machines and in the cleaning of many surfaces, such as those of cars, planes, railroad coaches, rugs, bottles, floors.

### *Synthetics in Hard Water*

THE fact that they do not precipitate in hard water alone would establish beyond dispute the superiority of synthetics over soap for the uses enumerated above. Besides, synthetics have other qualities. They can be used under acid conditions. Soaps cannot. Because of this property synthetics can be used in acid type cleaners such as those for tile, in electrolytic baths and in acid dye baths, etc. The stability of synthetics in acids is particularly advantageous in many textile operations, as an acid wash may follow a cleaning one without the need for thorough rinsing, which would be necessary were soap used. This superiority finds application in other industries as well. For example, in the acid washing of the felts on paper machines.

Synthetics in general withstand the presence of electrolytes to a very high degree. Soap salts out under similar conditions. As a result synthetic detergent materials are used in many cleaning operations where soaps could not exist such as in electroplating baths, in the chrome tanning of leather, and with soap itself to make possible a suitable sea water detergent.

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* Before 23rd meeting Assn. American Soap & Glycerine Producers, Inc., New York, Jan. 2, 1950.

# Soap for Industrial Purposes

## of a debate of the merits of the foremost independent consultants.

## Soap as a Superior Industrial Cleaner

**By Foster Dee Snell ***

AT the start, I concede that soap has no function as an industrial cleaner in acid solution—of course not—we used to use sulfated oils for those purposes and now we use synthetics. I concede that in water of 20-grain or more hardness it would be undesirable to use soap as an alternative to synthetic detergents, although much is used in hard water and, as I shall show you later, does a pretty good job. But if one looks at the water map of the United States one is struck by the softness of water where there are large populations. And in the other areas there are water softeners for large industrial users. Industrially, it is cheaper to supply softened water than to use synthetics and, incidentally, that factor is spreading down into the household. So, industrially, unbuffered and soft waters are the rule. Then soap and synthetic have to compete. We—soap—will concede to synthetics Canton, Ohio, with its unsoftened water and take all of New York, we concede the unsoftened water supplies of California and take practically all of New England. Where they compete on even terms in this restricted area soap wins in a walk. It is the superior detergent in soft water, as I can cite by research data.

If you have to have your hands in contact with a detergent for long times, such as a hand dishwasher in a restaurant, then you will find that soap leaves the skin in much better condition. Synthetics defat the skin much more than soaps do.

Mr. McCutcheon claims the job of cleaning streets and sidewalks for synthetics, even in New York. Okay, he can have them—there's divided allegiance, for modestly may we say that we put them in the sidewalk cleaning field. But a lot of time is going to elapse before there will be tonnage used for that purpose.

To bring out the effectiveness of soap as compared with synthetics I want to turn to some of our own experimental results, just spotting typical data with no tables, no slides. Those data, applicable to either industrial or home use of soaps, show conclusively that soap retains its position of superiority as a detergent molecule; it possesses the greatest surface activity. In application this carries over from washing of cotton fabrics to all forms of general cleaning.

A number of physical tests are useful in studying the relative surface activity of various types of agents. We always start with the simplest surface tension and interfacial tension as measured with the DuNouy tensiometer and use these as screening tests to eliminate promptly such compounds as may be low in surface-active properties. Interfacial tension of the sample solution is measured against benzene containing 0.1 per cent of oleic acid; this because the trace of acid in the nonaqueous phase is more nearly parallel to the oily matter and soil than would be a mineral oil like "Nujol," which is sometimes used for interfacial-tension studies.

Reduction of surface tension corresponds to the ability of the detergent solution to penetrate into the fine capillaries and interstices of fabrics. Reduction of interfacial tension corresponds to the ability of the detergent solution to wet an oily surface and to emulsify nonaqueous liquids. Effective surface-active agents in solution reduce surface tension from 72 dynes per cm. for plain water to a range of 25-35 dynes per cm. They will reduce interfacial tension against benzene containing 0.1 per cent of oleic acid from about 29 dynes per cm. for plain water to five dynes per cm. or less.

Like Al Smith's "Let's look at the record": In terms of surface tension value at 0.1 per cent they are in order of decreasing effectiveness: Cocotallow soap, 22.8 dynes; sodium lauryl sulfate, 27.9 dynes; a nonionic, 28.7 dynes; an alkyl aryl, 30.6. Values over 30 dynes aren't very good. In interfacial tension the soap is 2.0, alkyl aryl, 2.5; sodium lauryl sulfate, 2.7; the nonionic, 16.5. A value should

be under five dynes to be effective. In each soap is best.

### *Measuring Dispersing Power*

A METHOD of evaluation which appears to be more significant in terms of powerful detergent ability is measurement of dispersing power. This shows if an agent is effective in suspending solid particles and emulsifying liquid particles and keeping them suspended to prevent redeposition. For this measurement, 200-mesh burnt umber is coated with four per cent of an oil mixture containing one per cent of oleic acid. Details are published. A definite weight of oiled umber is shaken with a solution of the sample surface-active agent in high-form Nessler tube under fixed conditions, and allowed to stand for two hours. The middle portion is then removed for reading in a Jackson electric turbidimeter. The greater the height of the column before the light disappears, the less material there is in suspension, and the poorer is the dispersing power of the dissolved agent. In order that a high figure will correspond to high dispersing power, we use a reciprocal value; dispersing power equals 1/R X 100. Bearing in mind that a high figure is desirable, these show the coco-tallow soap, 37.0; the alkyl aryl, 7.4; the nonionic, 7.1; the sodium lauryl sulfate, 5.7. Good values are all above 10 units. Dispersing power is the one in which synthetics are most strikingly deficient.

We have a new measure of displacement of oil from fabric; details were in November *Industrial and Engineering Chemistry*. In this method sodium oleate takes 88 seconds, while an alkyl aryl sulfonate has not performed in 120 seconds.

Washing tests which compare the effectiveness of soap with that of 90 per cent-active alkyl aryl sulfonate, each at 0.2 per cent concentration, show soap to be the more efficient cleaning agent on following fabrics: Cotton, viscose rayon, viscose rayon with urea-formaldehyde finish, nylon, fibre glass, and silk. On wool and acetate rayon washed under the same conditions the sulfonated detergent was more effective than soap. So, generously, synthetics can have the wool business and leave the cottons and viscose rayons for the soaps.

Washing of standard soiled cotton is a favorite method of evaluation of cleaners. We use standard soiled cotton attached to clean towels to give a suitable size of load in a mechanical washer. The detergents were used at 0.2 per cent concentration.

The improvement in reflectance was coco-tallow soap, 22; alkyl aryl sulfonate, 19; a nonionic, 18. Actually the water used was not of zero hardness. It was five-grain, quite soft. Even at 15-grain hardness soap was better than a nonionic. And at 0.3 per cent, coco-tallow soap gave 16.9 regain with an alkyl aryl sulfonate only 10.4.

Before we leave hard water we should mention builders. If people do not have a softener, they can use either a polyphosphate—tripoly alone will exceed 100,000 tons in 1950—or the new organic sequestering agents when they come down in price. Then soap will perform even in hard water.

Mr. McCutcheon was somewhat critical of soap as being slippery. Right. It serves as a drawing lubricant where it doesn't have to compete with synthetics—they don't perform.

### *Economic Picture*

NOW let us look at the economics. Soap made from 25 cent tallow has competed with synthetics. Today the rate of production of soap is about four times that of synthetics. Several competent guesses indicate that it is highly improbable that soap output will be less than three times that of synthetics at any time in the next 10 years—that's as far ahead as one ventures to guess that the world will continue to exist.

With the 1948-49 break in prices of raw materials for soap to realistic levels, the price edge of soaps over detergents is tremendous. For industrial purposes unbuilt soap is competitive pricewise with alkyl aryl sulfonate containing 60 per cent of builder and with sodium lauryl sulfate containing 75-80 per cent of builder. On the basis of active agent there was no competition even at higher soapstock prices and at present levels the unbuilt synthetics cost two-and-a-half times as much as unbuilt soap.

Again, briefly, conventional soap is quite simple to manufacture—it's not always made simply. By contrast I estimate that of a plant to manufacture synthetics from the hydrocarbons costs five to 10 times as much per unit of production. If you have to, you can make soap solely by stirring with caustic at a cost for equipment of less than one-thousandth that of making synthetics.

You have to store these products, except when anhydrous soap is not hygroscopic. Compare that with some of the performances of synthetics which often take up moisture and cake. The patent literature these days is full of proposed solutions of a problem with synthetics which doesn't exist with soap.

There's a psychological factor, too. The stable foam of soap in comparison with the thin flimsy lather of synthetics is a decided advantage. If you doubt that, try to convince a commercial laundryman that the foam from the synthetic is as good as that from soap.

And you have to get detergents *out* as well as *in*. So when you launder with soap, you rinse out most of it and destroy the rest by souring. You can't do that with synthetics. You have to rinse, and rinse, and rinse. And water costs money when used in volume.

Finally, industrial soaps have nondetergent uses, too. I mention only one—as the emulsifier in polymerization of synthetic rubber. That's a nice large tonnage use.

In summary, I contend that soap will hold the industrial market because: 1. It possesses a more highly surface-active structure in soft water than any synthetic now known.

2. It is simpler to manufacture and lower in cost than any synthetic, either on a price per pound basis or on performance per dollar expanded.

While synthetics may take 25 per cent of the retail market, I do not believe that they can take 10 per cent of the industrial market that soap had 20 years ago. The place to sell a flashy

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# Profit Sharing

**Procter & Gamble Company's 62 year old profit sharing plan based on, "What is best for the business," has worked out well. Management's responsibilities told.**

**By William G. Werner** * Procter & Gamble Co.

PROFIT sharing plans for employees can be looked at from several viewpoints by business executives. One assumes that the employee has an inherent right to share in the profits of the organization for which he works. Another considers profit-sharing as a sort of "speed-up" plan through which to encourage greater production. Still another view is based on what you might call the "paternalistic" approach which considers the business as the benevolent father of all the employees in it. Still another viewpoint to profit-sharing is not based upon any of these assumptions. It is simply to conceive of profit-sharing as an answer to the question, "What is best for the business?"

It is this attitude of management toward profit-sharing that I should like to discuss. The best way to understand our point of view on profit-sharing, I believe, is to see how it fits into the company's general philosophy of management's relation to its employees. In order to help you to do this, I am going back a little into the history of Procter & Gamble's employee relations.

More than 60 years ago, as the company started to grow to such a size that the head of the business could no longer know every man in the factory by his first name, even then one could have seen reflections of the management's forward-looking attitude in what is now known as "industrial relations." The company, for example, was one of the first to establish the Saturday half-holiday. This was at a time when tradition assumed that every man worked from sunup to sundown, and sometimes on Sundays besides.

During the industrial upsets of the 80's, in the then single Procter & Gamble plant, the organization suffered from strikes. These troubles occurred despite what were considered unusually good working conditions for that day. William Cooper Procter, son of the senior partner and just out of college, was disturbed by conditions of unrest in what should have been a harmonious, smooth-running organization. His mind already had commenced to formulate that sound philosophy concerning an employer's responsibility to employees, which was to leave such deep impression upon the company's industrial relations policies for years to come. Under his persuasion the partners, in 1887, adopted a profit-sharing plan. With modifications, it has been part of the company's employee policy ever since. To the best of our knowledge, it is the oldest plan in continuous operation in the United States. From 1887 the business has grown until today it operates a network of 59

*Before the Council of Profit Sharing Industries, Roosevelt Hotel, New York, December 2, 1949.

plants in the United States and other countries.

Although over the years changes have taken place and additions have been made to our employee plans, there never really has been any change in the basic philosophy or attitude toward employee relations espoused by William Cooper Procter over 60 years ago. Vacations with pay, sick benefits, safeguards and training for safe operation, healthful working conditions, wages equal to the going wage for similar jobs in the best companies in the community, guaranteed employment, time bonus, pensions—all of these have come. But each new employee plan has been the exemplification of the point of view of William Cooper Procter toward those who worked with him in the organization.

### Five Goals for Management

THIS basic philosophy or attitude toward employee relations with our company represents a tradition which has been passed on to those who grew up with the organization. Acceptance of this tradition is no better demonstrated than in the career of Richard R. Deupree, our present chairman of the board, who, you might say, grew up in the business under Mr. Procter's guidance and leadership. In a talk before the Alumni Conference of Harvard Business School in Boston recently, Mr. Deupree summarized this philosophy of Procter & Gamble's point of view toward management's responsibility to employees by pointing to five goals for management. Briefly these goals of management's responsibilities to employees, as he outlined them, are:

1. A successful business—one that earns regular profits.
2. Steady employment.
3. The opportunity of the individual employee to develop to the fullest extent of his abilities.
4. The employee's chance to become a capitalist (by that he meant becoming a part-owner of business, or accumulating bonds, savings, etc.).
5. Good working conditions.

With such a point of view on the responsibilities of management toward employees, I believe you will see that if a management determines that a profit-sharing plan can and should be adopted in a particular business, it will consider the plan basically not from the standpoint of "rights" of employees, increased production, or paternalism; it will consider the plan from the point of view that it is *good for the business*, and that what is good for the business *is good for the employee*.

A profit-sharing plan, lined up against these goals of management's responsibility, must therefore answer such questions as:

1. If a successful business is one that earns regular profits, can the proposed profit-sharing plan accomplish important industrial relations objectives and still guard that necessity for profits to the investing owners of the business, without which it could not properly be called a profitable business?

2. If one of the management's goals is to provide steady employment at a fair and reasonable wage, is profit-sharing consistent with this objective; or is it conducive to the building of a feast-and-famine business—an up-and-down pattern of production?

3. If an individual employee is to develop to the fullest extent of his abilities, will the proposed profit-sharing plan stimulate him to that type of development, or will it simply tend to make him soft and fat and easy-going, looking forward not to hard work and further advancement, but to early retirement?

4. If one of management's responsibilities toward an employee is that he be given a chance to accumulate capital for himself, will the proposed profit-sharing plan contribute to that chance in a material way, so that after years of service he can honestly look back at the company in appreciation of what it did in helping him build the socially desirable habit of saving and investing for the future?

5. If "good working conditions" are one of the five responsibilities of management toward employees, will the proposed plan really contribute to the employee's impression and feeling that he is working under good conditions, or will he be likely to feel that the plan is merely a sop thrown to him in lieu of more important considerations due to him in the safe, healthful and congenial surroundings of his daily job?

### Plans Require "Tailoring"

ALTHOUGH I am inclined to believe that the basic responsibilities of management toward employees which Mr. Deupree outlines in his talk are so elementary that they may fairly be applied to practically any kind of business, we at Procter & Gamble are always in haste to emphasize this fact: What we do in our business and what we believe about any success we have had, does not qualify us to act as guides and mentors for business in general. The problems of every organization vary greatly. Granting this, we believe that one of the worst mistakes the head of any business can make is to assume that he can adopt completely and without careful tailoring, plans and ideas which worked in another organization—even though that organization may be in his same line of business.

Let me give you an example to make this point clear: Our people feel very strongly (and have said so publicly on many occasions) that many, many more businesses could profit financially and in terms of employee and public good will if they adopted some form of employment stabilization plan. However, we are *not* taking the position that every organization or any particular organization *can* guarantee employment. The fact that a guaranteed employment plan has been successful in Procter & Gamble for over 26 years is offered only to emphasize the idea that employment stabilization can work. Such a socially desirable plan, successful in one business, we submit, deserves study by all forward-looking executives. Whether any particular organization can stabilize its employment to an important degree is, however, a problem which must be worked out by the heads of that business.

In the same way, we hasten to emphasize the fact that our profit-sharing plans are tailored to meet our needs as we see them. While we are glad to send any manufacturer copies of the booklets which we use to ex-

plain them to our employees, and any further information available concerning these plans, we do not recommend that they be adopted as a package by other businesses.

Possibly the importance of our attitude in this respect may be emphasized if I point out this fact: Although we have had so-called profit-sharing plans, contemplating ownership of stock in the company by hourly-paid employees, since 1887, we were not fully able to satisfy ourselves as to the plans, through the years, and have made many changes in them.

From the first the company recognized the need to help the employee in the lower brackets, say under three thousand dollars per year, through profit-sharing. In the '30's it became more and more evident that the employee in the higher salary brackets would also have trouble in building up a real nest egg.

About 1943 we made alterations and amplifications in our plan so that all employees, not just hourly-paid employees, could participate in a true profit-sharing plan. Under our older plans, an employee's interest in the company's profits might be said to spring from the fact that the plans made him a shareholder of its common stock. Under the plans now in effect, a share of the returns to all employees covered by these plans is directly dependent upon the rate of net profits of the company.

Today all regular employees, no matter what their pay or salary, after a stated period of months, are eligible to participate in a plan of compensation and/or retirement that embodies profit-sharing in some form.

I want to emphasize here that we recognize the vital need for continuous study with a view to improvement: the need for the constant checking that we are doing in the light of experience. With all of our experience, study and experimenting through 62 years, we have only just recently arrived at the point at which we really feel satisfied with our plans from the standpoint of basic profit-sharing.

The plans, as we now have them, call for contributions by the company which are based upon consolidated net profit for any fiscal year before federal income taxes, over and above a minimum consolidated net profit figure. They provide for increases in the profit-sharing dividends paid employees, according to a scale which sets up a greater profit-sharing dividend when consolidated net profits of the company increase.

Over all, our plans fully justify and, we hope, make clear to the rank and file of employees the statement which has appeared for years in our profit-sharing booklets: "It has always been the declared policy of the company to recognize that its interests and those of its employees are inseparable."

What is most important, we believe, is that our profit-sharing plans represent "incentive," not in its narrower sense as related to the direct production of additional units or better quality units, but "incentive" in its broadest and most inspiring, compelling sense. Here, we believe, is the sort of incentive that the head of every business hopes for and tries to build —the incentive that makes a man realize that the progress and development of the business results in something for *him;* that what is good for the business is good for him; that he is part of the business just as though he were running his own corner grocery and were standing behind the counter serving his own customers and ringing his own cash register.

That kind of incentive-thinking, if properly stimulated, we believe, results not only in a different attitude by employees toward expenditures, toward protection of the company's property, and toward the quality of its output. It results in a heightened, sharpened, more loyal esprit de corps that marks one business as against another the moment you step inside a plant. Furthermore, the value of that kind of incentive cannot be overestimated in respect to the public relations of such an organization; for here we have employees realizing that the business is only successful when it has the good will of the public. And we see employees gaining a new conception of how much quality output and sound operation mean in assuring the kind of values to the public that earn their good will and patronage.

In this talk I have confined myself to a discussion of our company's point of view—our philosophy, if you will—toward profit-sharing. I have tried to point out how that philosophy has been translated into workable profit-sharing plans. That, I believe, is as far as I should try to go at this time.

In closing, I wish to emphasize what I said in the beginning: that our profit-sharing plans are not conceived basically from the standpoint of any rights of employees, of any speed-up to stimulate production, or of any paternalism; they are conceived as an answer to the question, "What is best for the business?"

Any plan which is approved by management from the viewpoint that it is best for the business must, we be-

(*Turn to Page* 145)

"The new king size economy package, Mrs. Zmultz. With it we are giving away, absolutely free one hand truck!"

# Soap Sales Analyzed

## 1940—1950

**A study of sales of various types of soaps, both on a basis of dollars and volume, discussed before the recent annual meeting of the Association of American Soap & Glycerine Producers.**

SALES of soaps have shown a steady gain over the recent ten-year period, 1940-1950, with the dollar total showing a gain of 117% during this period, (Table 1) while volume increased 20%. Between 1940 and 1943, expansion in sales, dollar-wise, was 54%, the index rising to 154 from the base point of 100 which was taken as the average of sales for 1940. In 1944 and 1945, when supplies were restricted and prices were controlled, only small gains were recorded, but in 1946 and 1947, after price control ended and supplies again became more plentiful, the pace of sales showed a more rapid increase.

Soap sales reached a peak in 1948 when the dollar index moved up to a high point of 261. The dollar value of sales then dropped off in 1949, the index for that year falling to 217, which while 17% below the 1948 figure, was still 117% above the level for 1940. The decline in 1949, incidentally, can be attributed almost entirely to reduced prices.

Turning to the tonnage figures for the same ten-year period, a somewhat different pattern is apparent. Starting at 100 in 1940, the index advanced to 120 for 1943. Thereafter, tonnage sales, reflecting limited supplies, declined slowly until 1946 and 1947. As supplies became more plentiful after the war ended, sales volume increased 6% in 1948, and then held virtually at this level through 1949, at a mark 20% above the 1940 base.

### *Soaps in Price Decline*

THE 17% decline in the dollar value of soap sales during 1949 was in sharp contrast with the index for all other commodities handled in grocery stores, which declined only 2% on a dollar basis in 1949 (Table 2). The Nielsen findings would seem to indicate that the housewife fared much better pricewise on soaps than on the average grocery store product in 1949 as compared with 1948. She was able to buy practically as much soap as in 1948 for 17% fewer dollars. And that reduction apparently was not merely a correction of an abnormally high price level in 1948, since soap prices do not seem to have been out of line in 1948.

Retail prices on two groups of soap products were analyzed in the Nielsen study to check on how current soap selling prices compare with the pre-war level, and to check on just how much of a decline there has been in 1949 as compared with 1948. In assembling these data, regular prices were averaged for the large sizes of four major brands of heavy-duty package laundry soap and the regular sizes of four leading brands of toilet soap. Using 1940 as a base of 100, average consumer prices are shown (Table 3) for the two groups of soap and of food prices for 1940 and for December 1, 1947, 1948 and 1949. Also tabulated at the bottom of the food price bars is the Consumers' Price Index.

The average price of the large size of package laundry soap on December 1, 1947 was 81% higher than the 1940 average, while regular size bars of toilet soaps were up 69%. Food prices had increased 109% to an index of 209. Cost of living, which is based on consumer expenditures for food, clothing, rent, etc., was estimated to be 67% above 1940. A year later on December 1, 1948 soap prices had declined—the package soaps 7% and toilet soaps 5%—whereas food prices and cost of living average had advanced.

A further reduction in soap prices occurred during the next 12 months bringing them down to levels 36% and 34% above 1940. In contrast, food prices, while off from their 1948 level, were still more than double—108% over the 1940 average. A negligible decline occurred in the cost of living index, leaving it 69% above 1940. Evidently lower raw material

**By Philip Stomberg**
A. C. Nielsen Co.

costs on soap have been passed on to the consumer.

### *Advertising Effect Studied*

ANOTHER study, which may be summarized briefly, was made of the effect of advertising expenditures (magazine, radio and newspaper) on soap sales. Again taking 1940 as the base or 100 point, advertising expenditures reached an index of 194 for 1948, while dollars sales were up to 261, and pounds to 121. For 1949 the comparable totals were 191 for advertising dollars spent, 217 for soap sales in dollars, and 120 for soap sales in pounds. Advertising expenditures were off only 2% in 1949 as compared with 1948, while dollar sales were off 17%.

The Nielsen audits also provide a record of consumer promotions handled by the retail stores, i.e., coupons and premiums. The record for the first eight months of 1949 shows less couponing activity on toilet soaps and package laundry soaps, as compared with 1948, but some increase in premium offers, primarily one-cent and half-price offers.

### *Inventories Reduced Sharply*

EVEN though tonnage sales of soaps held even, average inventories in retail stores were cut back rather sharply in 1949 as shown in Table 4. During 1949, retail stocks of soaps in total were at a level that averaged 4% under 1940, whereas sales were 20% higher. There was a particularly sharp decline from 1948 when stocks were at an index of 108 in terms of 1940, perhaps indicating a desire on the part of retailers to hold stocks at a minimum in anticipation of lower prices. As a result of the widened gap between inventories and sales, stock-turn has increased sharply since prewar,—from 6 times a year to 6.6 times in 1948, and 7.4 times in 1949.

As might be expected, the reduction in average retail stocks has been accompanied by an increase in

(*Turn to Page* 98)

# TURNER

## WETTING AGENTS

### ANIONIC

(For Copious Suds)

TYPE: ALKYL ARYL SULFONATE

FORMS: FLAKE, GROUND
LIQUIDS and POWDER

ACTIVE ORGANIC: 40%-50%-70%

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(For Controlled Suds)

TYPE: POLYOXYETHYLENE

FORM: LIQUID

ACTIVE ORGANIC: 100%

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# TRADE NEWS

### Drew Names Dr. Zinzalian

Dr. George Zinzalian, who has been connected with the organization for over 16 years, was recently elected

GEORGE ZINZALIAN

sales manager of the technical products division of E. F. Drew & Co., New York. Among his previous duties was that of supervisor of production, product development and research at the Boonton, N. J. plant. In his new capacity he is directing sales and service activities of the Technical Products Division and Textile and Leather Oils Department. He is responsible for the sale of all products made by these departments, including fatty acids, textile detergents, sulfated oils, etc. Dr. Zinzalian is making his headquarters at the general offices of the company at 15 E. 26 St., New York.

### Aronowsky Joins Reinitz

Dr. Alexander Aronowsky has been appointed chief chemist and plant manager for the Reinitz Soap Corp., Long Island City, New York, specialists in the manufacture of private brand and specialty toilet soaps. Dr. Aronowsky who was associated with soap manufacture in Germany for thirty years, came to the United States early in 1949. He was formerly associated with the soap and cosmetic firms in Berlin of Ph. Kochmann and Dr. M. Singer. He is a graduate of the University of Berlin having studied chemistry there under the famous Dr. Emil Fischer.

Reinitz Soap Corp. is now headed by Dennis Duveen, president. Ferdinand Reinitz, founder of the company ten years ago, retired from active participation in September, 1949, selling out his interest to Mr. Duveen. The firm will continue the manufacture of special toilet soaps and private brand cosmetics as heretofore.

### N. C. Soap Testing Plans

Establishment of new testing facilities for soaps and other materials purchased in heavy volume by the state of North Carolina's Division of Purchase and Contract was announced in a recent radio address by Governor W. Kerr Scott. "The Division of Purchase and Contract," he said, "is establishing testing facilities for materials and state purchases in large volume such as soaps, germicides, insecticides, disinfectants, waxes, polishes, etc. This program will be of benefit in obtaining maximum value for tax dollars expended for such supplies," according to the Governor.

### Form Yoga Chemical Co.

Yoga Chemical Co., Jamaica, Long Island, has been established to compound and distribute soaps, detergents, bleaches and bluing for use in automatic laundries. The new company is managed by John V. Petriello and is located at 154-20 South Road, Jamaica, L. I., New York.

### Bramston-Cook Oronite V.P.

H. E. Bramston-Cook was recently elected a vice-president and R. M. Miilu named eastern sales manager of Oronite Chemical Co., a subsidiary of Standard Oil Co. of California. Mr. Bramston-Cook continues as general manager of sales and product development east of the Rocky Mountains, and will also handle work in the

H. E. BRAMSTON-COOK

export field with the exception of the Far East.

### Kranich Jr. Joins Kranich

Herbert Kranich, Jr., son of Herbert Kranich, head of Kranich Soap Co., Brooklyn, will start work with the company March 1. He was recently graduated from the School of Commerce of New York University. Father and son were scheduled to sail February 10th on a South American cruise aboard the S. S. *Santa Paula*.

### P&G Personnel Shifts

Transfer of William M. Ittmann, director of media, to the position of assistant general manager of Sabates, S. A., the company's subsidiary, with headquarters in Havana, Cuba, was announced recently by Procter & Gamble Co., Cincinnati. Paul Huth, who has been associated with the advertising department for a number of years, has been designated manager of the department's media section, with Richard F. Peck in charge of radio and television media activities and Ralph Glendinning in charge of all other media.

# 3 REASONS WHY

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2. **MOST USED:** More Nacconol has been used for more years than any other synthetic detergent. Why risk your reputation on new "discoveries" when you can specify NACCONOL and be sure!

3. **MOST DEPENDABLE:** Recently expanded facilities assure an ample supply of NACCONOL . . . stable in both quality and cost. Look to NACCONOL for leadership in production performance and value!

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| Philadelphia 6, Pa., 200-204 S. Front St. | LOmbard 3-6382 | New Orleans 12, La., Cotton Exchange Bldg. | Raymond 7228 |
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# Luckman Out as Lever President

NO ONE has been named as yet to succeed Charles Luckman as president of Lever Brothers Co., New York, since the announcement Jan. 18 of his severing relations with the firm. "For an interim period the executive responsibility" is "in the hands of three directors of Unilever (British parent organization), Messrs. Arthur Hartog, J. L. Heyworth and F. D. Morrell, who are being loaned to Lever Brothers Company," the announcement of Jan. 18 stated.

The news of Mr. Luckman's leaving Lever, a development that had been expected for some time, was released at 5:30 p.m. on Wednesday Jan. 18 for publication the following day. Actually, the decision had been reached the previous Saturday at a luncheon meeting at the Waldorf Astoria Hotel, New York, at which Sir Geoffrey Heyworth, chairman of Lever Brothers & Unilever, Ltd., London, Paul Rykens, chairman of Lever Brothers & Unilever N.V., Holland, and Mr. Luckman were present. Sir Geoffrey and Mr. Rykens had arrived in the U. S. by plane the day before.

Meanwhile, widespread speculation in the press and on the radio continues concerning Mr. Luckman's future plans. One report had it that he would go with Montgomery Ward, Chicago; another that he would be appointed head of the Atomic Energy Commission at $17,500 a year was denied by President Truman. Rumors that Mr. Luckman is in line for a political appointment, such as an ambassadorship, continue to mount especially in view of his chairmanship of the annual Jefferson-Jackson Dinner in Washington, D. C., Feb. 16.

The day before his resignation was announced the following telegram signed Charles Luckman was received by a number of soap raw material supply firms:

"You have undoubtedly read in the press that I have been honored by being made chairman of the Jefferson-Jackson Dinner, to be held in Washington on Feb. 16.

"President Truman and Vice-President Barkley will be guests of honor at the dinner and it will be attended by the entire cabinet, all of the

CHARLES LUCKMAN

Democratic governors and many other distinguished citizens from all over the country. It occurs to me that you would like to participate with me in making this dinner a great success. Reservations are available at the rate of one for each one hundred dollar contribution to the Jefferson-Jackson Dinner committee and tables of ten can be arranged on the basis of a thousand dollar contribution. Checks should be made payable to the Jefferson-Jackson Dinner committee and sent to me care of Lever Brothers Company, 505 Park Ave., New York 22, N. Y.

"I trust that I shall be able to count upon your cooperation and support on this occasion.

"With kindest personal regards.

Charles Luckman"

Reasons advanced for Mr. Luckman's stepping down and out as head of Lever varied. One factor was the extremely high turnover in personnel, which reached its climax in Mr. Luckman's 3½ year tenure when the firm moved its headquarters to New York and released 800 out of 900 employees, including three vice-presidents and a considerable number of veterans having service records of 20 years and better. The demoralizing effect was registered in sales, the reported decline of which was another consideration in what some newspapers termed Mr. Luckman's "dismissal." Lever's failure successfully to market nationally a detergent comparable to "Tide" was also listed among the reasons for the decision, as was a plan to install a Unilever man to supervise Mr. Luckman's activities and which was rejected by him. Purchases of firms in the margarine, toiletries, creme shampoo and home permanent wave field, whose sales volume reportedly failed to come up to expectations were also cited.

Plans for the construction of the Lever House building at 53rd St. and Park Ave., New York, are nearing completion and the final design has been completed. The former Lever Cambridge headquarters building is still unoccupied, the arrangement for its purchase by a life insurance company having failed to materialize.

Other recent Lever changes include the appointment of J. Harry Apeler as eastern regional sales manager with headquarters in New York. He is succeeded as southern regional sales manager by Herman L. Wieneke, former Philadelphia division sales manager, a post now held by H. Howard Yates, formerly field supervisor in the Houston division. The appointments were announced by W. W. McKee, vice-president in charge of sales. Max A. Kiker has been transferred from Scranton, Pa., to Dallas as city sales manager, and Charles E. Tosch, formerly of the Prudential Life Insurance Co., Newark, N. J., is now employes' service manager. The naming of Henry F. Woulfe, president of the Pepsodent Division of Lever, as vice-president in charge of the parent company's mid-western operations took place recently. Frank R. Brodsky, Pepsodent advertising director, retired recently to form his own advertising firm. Named advertising manager of the Harriet Hubbard Ayer subsidiary of Lever is David N. Jones, formerly vice-president of Grant Advertising, Inc. Three assistant merchandising managers who have joined Lever's merchandising division directed by Frederick Schneller are: James G. Gammel, now in charge of "Surf," "Lifebuoy," "Swan" and hotel sales; H. E. Wholley, formerly of Swift & Co., New York, who is assistant merchandising manager on handling "Lux" toilet soap, "Lux Flakes," "Silver Dust" and glycerine. In charge of merchandising for "Rinso," "Spry," "Breeze" and edible products is A. C. West.

Charles N. Crittenton, sales manager of the Pepsodent division, has joined Lever in New York as sales manager of the company's bulk edible department.

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**If** your spray presents special problems, send us an unperfumed sample. We will be glad to work out an odor suitable for your particular product

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## EOA Reelects Wesemann

Hans P. Wesemann, vice-president and secretary of Fritzsche Brothers, Inc., New York, was reelected president of the Essential Oil Association, at its annual meeting at the Hotel Plaza, New York, Jan. 6. Also continuing to serve in posts held last year were Gerard J. Danco, Gerard J. Danco Co., New York, vice-president, and George H. McGlynn, Magnus, Mabee & Reynard, Inc., New York, secretary-treasurer. F. J. Lueders, of George Lueders & Co., New York, and Philip Chaleyer, of Ph. Chaleyer, Inc., were elected to the executive committee. In his president's report, Mr. Wesemann characterized 1949 as "a very trying year," but said that "one can look forward to really good business for at least the first half of this year (1950)." He mentioned some of the factors affecting the essential oil industry last year such as crop failures, reduced essential oil prices in Europe to obtain dollars for ECA goods, increased living costs, competition for labor from other industries, currency devaluation, the civil war in China, etc. Mr. Wesemann then reviewed the activities of the Association during the past year.

HANS P. WESEMANN

A report on the meeting of the Scientific Section of the Essential Oil Association was presented by its chairman, Dr. Eric C. Kunz, of Givaudan-Delawanna, Inc., New York. He mentioned the discussion at the Section's meeting of Eugenol U.S.P., the question of specific conditions for bisulfite solubility of lemongrass oil. Specifications were adopted on the following aromatic chemicals and essential oils: anisic aldehyde, sage Dalmatian, Lavandin oil, diphenyl oxide, acetophenone, methyl acetophenone, ethyl phenyl acetate and methyl phenyl acetate. Work will continue on new specifications during 1950, and suggestions for the work were asked by Dr. Kunz. He also proposed a study be made on the work done so far on odor classification.

## Hackman Heads Hatco

William M. Hackman, who resigned recently as vice-president of E. F. Drew Co., Boonton, N. J., has been elected president of Hatco Chemical Co., producers of a complete line of fats and oils specialties at its plant on Harrison Ave., Harrison, N. J.

## Wholesale Grocers Meet

Exhibitors at the 1950 meeting of the National-American Wholesale Grocers' Association at the Ambassador Hotel, Atlantic City, Jan. 27-31, included Armour & Co., Chicago; Bostwick Laboratories, Bridgeport, Conn.; Bridgeport Brass Co., Bridgeport, Conn.; Michigan Chemical Corp., St. Louis, Mich.; Swift & Co., and Wilson & Co., Chicago. Among the manufacturers sponsoring various social events were Lever Brothers Co., New York.

"Werko," new laundry soap for use in automatic washing machines was announced recently by M. Werk Co., Cincinnati. In reusable, galvanized steel pails, the new soap comes in a 25 pound size retailing for $7.95 and a 10-pound size that retails for $3.39. Also included is a clear plastic measuring cup.

## To Discontinue Claims

Pittsburgh Chemical Laboratory, Inc., Pittsburgh, recently agreed to comply with an order of the Federal Trade Commission that the firm stop representing that three of its dishwashing products sterilize dishes. The products involved are "Meta Suds," "Limogen" and "Meta Chlor." Another cleaning compound firm entering into a stipulation with the F.T.C. is Magic Foam Sales Corp., Cincinnati, which has agreed to stop claiming that its product embodies a new principle of cleaning, that it does not remove natural oils from fabrics or that it restores such oils to fabrics. The firm will also stop claiming that "Magic Foam" has any value as a mothproofing agent or has any sterilizing effect.

Below: At the banquet at the annual meeting of the Essential Oil Assn. of U.S.A. held at the Hotel Plaza, New York.

Don't be misled! Others may imitate, but no other product matches the many highly desirable features of Solvay SNOWFLAKE CRYSTALS. In addition to providing the qualities of a true sesquicarbonate of soda, Solvay SNOWFLAKE CRYSTALS offers numerous other exclusive advantages—see complete list. Package it as it is . . . or use it as an ingredient in your compounds, Solvay SNOWFLAKE CRYSTALS will help make your product a standout—and a sellout!

- Mixes well with other ingredients
- Non-caking
- Free-flowing—ideal for filling machines
- Mild and non-irritating to the skin
- Softens water promptly and effectively
- Dissolves instantly
- Perfectly stable
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## Hall in Lever Post

Dr. Marvin J. Hall was recently appointed associate director of research for Lever Brothers Co., New

DR. MARVIN J. HALL

York. Also appointed were Dr. Cheves T. Walling as chief supervisor of organic research and Dr. Leonard J. Vinson as chief supervisor of biological research in the company's basic laboratories division. Dr. Hall for the past three years has been director of the central laboratories of Kraft Foods Co., Glenview, Ill.

## Armour Names Johnson

C. B. Johnson was recently appointed general superintendent of the 31st St., Chicago, By-Products Auxiliaries Division of Armour & Co. He has been with the division since July 1, 1949, and prior to that was vice-president and plant manager of Kamen Soap Products Co., Barberton, O. Earlier, he was associated with the Procter & Gamble Mfg. Co. for 18 years.

## Correction

Through an inadvertence the name of W. F. Dewey of Anderson-Nichols & Co., Boston engineering firm, was omitted as author of the article on Stanley Home Products Co. in our January issue.

## New Soap Wage Rate 95c

An increase from 40 to 95 cents an hour in the minimum wage rate paid in plants making soap for government orders under the Walsh-Healey Act was announced recently by the Labor Department, Washington, D. C. The new minimum applies to synthetic organic detergents for both household and institutional use. The Department rejected the idea of a lower minimum wage for the South. The new wage rate applies only to contracts of more than $10,000.

## New Trio Price List

A new price list and literature on its line of soaps and related products was announced recently by Trio Chemical Works, Inc., Brooklyn. The data are available on written request.

## New P&G Sales District

The appointment of John H. Perry as district manager of the company's newly formed Brooklyn sales district was announced recently by Procter & Gamble Co., Cincinnati. Previously, Mr. Perry had been general supervisor of the New York district. The new Brooklyn district comprises the counties of Kings, Queens, Nassau and Suffolk, with offices located at 108-01 Queens Boulevard, Forest Hills, N. Y. Non-sales functions of the new district, including accounting and billing, servicing of orders and delivery, are handled in New York.

## Polak Appoints Kates

The appointment of Maurice Kates as its sales representative for New England and upstate New York was announced recently by Polak's Frutal Works, Inc., Long Island City, N. Y. His headquarters are in Boston.

## R. T. Merrill Joins Turner

Robert Turner Merrill has become associated with Joseph Turner & Co., Ridgefield, N. J. Mr. Turner is the son of Walter J. Merrill, president of the company and is a grandson of Joseph Turner who some years ago was head of J. L. & D. S. Riker, Inc., New York, which subsequently became Joseph Turner & Co. Robert Turner has started his activities in the chemical field in the purchasing department. He is a graduate of the University of Pennsylvania and did graduate work at Harvard University. Crown Chemical Co. and Eastern Industries are affiliated with the Turner company operations at Ridgefield, N. J.

## Douglas Heads CSA

Election of Charles V. Douglas of Heyden Chemical Corp., New York, as president of the Salesmen's Associa-

CHARLES V. DOUGLAS

tion of the American Chemical Industry was announced recently. Other officers elected include:

Vice-president, Paul W. Hiller, Innis, Speiden & Co.; treasurer, Edward A. Bush, Bush Aromatics, Inc.; secretary, Robert J. Milano, Millmaster Chemical Corp. Directors elected were: Waren F. Schumacher, J. T. Baker, Chemical Co. and Denman C. Peniston, Solvay Sales Corp. Ralph L. Ericsson of Sumner Chemical Co., was elected a director for two years to fill the unexpired term of Mr. Milano.

## Luckman to Testify

Lever Brothers Co., New York, Wilmington, Del., are to be included in a study of the possibility of monopolistic practices by the House Judiciary Committee, it was announced late in January by Emmanuel Celler, New York Democratic chairman of the committee. Charles Luckman, former president of Lever Brothers, is expected to testify at the hearings.

## New Albany Soap Officers

Miss Madeline Grober was elected president of Albany Soap Corp., Albany, N. Y., at the company's annual meeting Jan. 10. She succeeds her father, the late Joseph A. Grober, who died Dec. 18, 1949. Miss Grober was formerly treasurer. William H. Geier continues as vice-president and general manager; Harry J. Geier, formerly secretary, becomes secretary-rasurer, and Michael C. Beck continues as foreman.

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and 200 lbs.
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## AOCS Meeting Dates

Dates for the spring and fall meetings of the American Oil Chemists Society were announced recently as follows: Spring, Atlanta Biltmore Hotel, Atlanta, Ga., Mon., Tues. and Wed., May 1-3; Fall, San Francisco, Sept. 26-28, Sir Francis Drake Hotel. Chairman of the spring meeting is E. C. Ainslie of Buckeye Cotton Oil Co., while E. B. Kester of the Western Regional Research Laboratory, Albany, Calif., is general chairman of the fall meeting. Program chairman for the Atlanta meeting in May is Dan Lee Henry of Law and Co., Atlanta, assisted by Willy Lange of Procter & Gamble Co., Cincinnati, W. C. Ault of the Eastern Regional Research Laboratory, Philadelphia and T. H. Hopper of the Southern Regional Research Laboratory, New Orleans. At the same time it was announced that the annual short course sponsored by the A.O.C.S. will be held early in August at the University of Minnesota. The general subject is drying oils.

## SOCMA Hears Brown on ITO

Winthrop G. Brown, director of the Office of International Trade Policy of the Department of States, Washington, D. C., discussed "Why Private Business Should Support the ITO (International Trade Organization) in an address before the Jan. 11 luncheon meeting of the Synthetic Organic Chemical Manufacturers' Association, at the Hotel Commodore, New York. Mr. Brown suggested to the group that American business men and leaders in the chemical industry should support the ITO because "you are believers in the private-enterprise system and in the United States. You have a very great stake in the private-enterprise system and in the prosperity of the United States. Therefore, you should support any agreement or organization which will serve to promote those two great interests," he stated.

New two-compartment alkali "Tanker" recently put into service by Westvaco Chemical Division, Food Machinery and Chemical Corp. to serve Caustic Soda and Caustic Potash customers in New York, New Jersey and Philadelphia metropolitan areas. Pressurized compartments of 1175 and 1750 gallons respectively can be discharged by air from tractor-driven compressor. Tanks are insulated and steel jacketed for combination deliveries of KOH or NaOH.

## T.G.A. Section to Meet

The next meeting of the Scientific Section of the Toilet Goods Association will be held Thursday, May 18, at the Waldorf-Astoria Hotel, New York, on the final day of the regular annual meeting of the T.G.A. Paul G. Lauffer is chairman of the Scientific Section.

The following members of the T.G.A.'s Convention Committee were announced recently by Chairman Karl Voss, of Karl Voss Corp., Hoboken, N. J.:

A. R. Ludlow, U. S. Industrial Chemicals, Inc., treasurer; Paul E. Forsman, C. H. Forsman Co.; Philip E. Haebler, Goldschmidt Chemical Corp.; M. Lemmermeyer, Aromatic Products, Inc.; Walter S. Nuckols, Swindell Brothers, Inc.; Edward D. Russell, American Newspaper Publishers Association; Lawson M. Scovill, Scovill Manufacturing Co.; J. W. Thayer, Owens-Illinois Glass Co., and Kenneth W. Tracy, Fritzsche Brothers, Inc. The convention is being held Tues., Wed., and Thurs., May 16-18, at the Waldorf-Astoria Hotel.

New "Chex" deodorant soap introduced recently by Hewitt Soap Co., Dayton, O. Offered in three-cake counter display package, which can also be used as handy carry home carton. Soap contains new bactericidal ingredient "CX-6."

## Jap Soap Production Up

Production of soap in Japan in the first nine months of 1949 amounted to 14,035 metric tons, as compared with 6,235 tons in the comparable period of 1948, it was revealed recently by the U. S. Department of Commerce.

## Murray on Detrex Board

Robert Lindley Murray, executive vice-president of Hooker Electrochemical Co., Niagara Falls, N. Y., was recently elected a director of Detrex Corp., Detroit.

## Neptun NYQ V.P.

Election of R. P. Neptun as vice-president in charge of field sales of New York Quinine & Chemical Works, Inc., Brooklyn, was announced recently by Francis J. Reid, executive vice-president. Mr. Neptun has been associated with the drug, chemical and pharmaceutical industries for many years.

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From Niagara Falls to Texas, fourteen great plants make Mathieson a major force in the manufacture of the five basic heavy chemicals — caustic soda, soda ash, ammonia, chlorine and sulphuric acid — and their allied products. Mathieson is a single source of supply for all five of these chemicals indispensable to industry, agriculture and public health.

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### Heads C.P.S. & E.A.

W. F. Kammerer of George Lueders & Co., was recently chosen as president of the Chicago Perfumery,

W. F. KAMMERER

Soap and Extract Association. Other officers elected include: Benjamin Bridge, Jr., Bridge Chemical Co., vice-president; Charles E. Arch, Sheffield Tube Corp., secretary and Z. D. Sappenfield, Allen B. Wrisley Co., treasurer.

### Swedish Syn. Det. Plant

Construction of a synthetic detergent plant at Gnesta, Sweden, is expected to be started in the near future, it was reported recently. American technological methods of production will be employed in the new plant.

### C-P-P Stock Sold Fast

A special offering of 22,900 shares of common stock of Colgate-Palmolive-Peet Co., Jersey City, N. J., was sold within the space of one-half hour recently by Robert W. Baird & Co. and Paine, Webber, Jackson & Curtis, Milwaukee. The two firms underwrote the distribution for a Milwaukee institution that desired to liquidate its holding to obtain funds for expansion.

### Water Works Assn. to Meet

A meeting of the American Water Works Association will be held at Convention Hall, Philadelphia, May 21-26.

### Jasper Forms Own Firm

Leon Jasper, formerly sales manager of Chemical and Process Machinery Corp., New York, recently announced the formation of his own company, Jasper Machinery Co., for the sale and purchase of new and used equipment for the chemical, cosmetic, paint, drug and allied industries. Offices are located at 1123 Broadway, New York 10. The telephone number is CHelsea 2-2776.

### Opens American Office

Camilli Albert & Laloue, S.A., Grasse, France, essential oils, recently announced the establishment of an American affiliate of the same name with offices and stockroom at 14 E. 48th St., New York 17.

### Philippine-Made Soap

By government order all offices and federally controlled institutions of the Philippine Government are required to use laundry soap made by National Abaca and Coconut Corp. This follows an earlier order cutting sharply imports of soap from the U. S. "Go Nacoco" is the slogan encouraging consumption of the Philippine made soap. "Nacoco soap compares favorably with any similar soap; use it," a government directive explains.

### Van Zile Joins Snell

B. S. Van Zile, who has been with U: S. Testing Co., Hoboken, N. J., for the past 18 months, re-

cently joined Foster D. Snell, Inc., New York, where he will work in the analytical division with Dr. Chester Snell. Before going with U. S. Testing, Mr. Van Zile had been with Hercules Powder Co., Wilmington, Del., and before that was with Colgate-Palmolive-Peet Co., Jersey City, N. J., for 13 years.

### Huisking on Bank Board

Charles L. Huisking, president of Conti Products Corp., Brooklyn, and Chas. L. Huisking & Co., New York, was recently elected to the board of directors of the Lafayette National Bank of Brooklyn.

### P&G Stock Plan Voted

Authorization of an increase in the company's common stock from 7,500,000 shares to 15,000,000 shares was voted recently at a special meeting of stockholders of Procter & Gamble Co., Cincinnati.

Banquet held during recent Magnus, Mabee & Reynard sales meeting in New York.

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*by*

# GEORGE LUEDERS & CO.

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# NEW TRADE MARKS

THE following trade-marks were published in the January issues of the *Official Gazette* of the United States Patent office in compliance with Section 6 of the Act of February 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, a fee of ten dollars must accompany each notice of opposition.

**Handy-Hannah**—This for floor wax dispenser. Filed Nov. 20, 1946 by Everett E. Young Co., West Bridgewater, Mass. Claims use since Sept. 16, 1946.

**Gold Leaf Shampoo**—This for shampoo. Filed Oct. 16, 1946 by Kajol Inc., San Francisco. Claims use since April 1945.

The following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of $25 must accompany each notice of opposition.

**Armstrong's** — This for floor seam and crack filling compositions. Filed Feb. 10, 1948 by Armstrong Cork Co., Lancaster, Pa. Claims use since 1936.

**Petrolite**—This for petroleum waxes. Filed Dec. 9, 1946 by Petrolite Corp., Webster Groves, Mo. Claims use since Oct. 22, 1946.

**Tanglefoot**—This for flypaper. Filed Oct. 7, 1947 by The Tanglefoot Co., Grand Rapids, Mich. Claims use since Jan. 18, 1888.

**Amm-i-dent**—This for powder and paste dentifrice. Filed July 26, 1949 by Amm-i-Dent, Inc., Jersey City, N. J. Claims use since 1947.

**Skuf Shine**—This for shoe polishes. Filed Oct. 26, 1948 by Hollywood Shoe Polish, Inc., Richmond Hill, N. Y. Claims use since July, 1935.

**Genithion** — This for insecticides. Filed Sept. 3, 1948 by Allied Chemical & Dye Corp., New York, N. Y. Claims use since July 1, 1948.

**Oronite** — This for wetting agents. Filed Sept. 4, 1948 by Oronite Chemical Co., Wilmington, Del. Claims use since Oct. 13, 1943.

**Almycil** — This for fungicide. Filed Aug. 7, 1948 by Meyer Chemical Co., Detroit. Claims use since Feb. 6, 1946.

**Swan** — This for toothpaste. Filed Aug. 24, 1948 by Katz Drug Co., Kansas City, Mo. Claims use since Jan. 27, 1934.

**Lucien Lelong**—This for soaps. Filed Sept. 27, 1947 by Lucien Lelong, Inc., Chicago, Ill. Claims use since December, 1924.

**Drawing of rooster**—This for type cleaner for removing ink; and linoleum cleaner. Filed Mar. 12, 1948 by The Paraffine Companies, San Francisco, Calif. Claims use since July, 1945.

**Wyandotte** — This for general cleansing and washing compositions. Filed June 24, 1948 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since May 13, 1899.

**Terjolate**—This for household detergent. Filed July 19, 1948 by Rare Chemicals, Inc., Harrison, N. J. Claims use since May 1948.

**Nu-Look**—This for watch cleaning and rinsing solution. Filed Nov. 4, 1948 by J. Bates Co., Charleston, W. Va. Claims use since Oct. 11, 1948.

**Lo-Sol-H**—This for water soluble alkaline detergents for industrial cleaning of metals. Filed Nov. 18, 1948 by Lowe & Co., St. Louis, Mo. Claims use since Oct. 30, 1947.

**Tyro**—This for soapless detergent for use in dairies. Filed Dec. 8, 1948 by The Perfex Co., Shenandoah, Iowa. Claims use since July 17, 1948.

**Paracide**—This for insecticides. Filed May 4, 1948 by Hooker Electrochemical Co., Niagara Falls, N. Y. Claims use since Mar. 27, 1922.

**Paradi**—This for paradichlorobenzene. Filed May 4, 1948 by Hooker Electrochemical Co., Niagara Falls, N. Y. Claims use since Mar. 27, 1922.

**Sunny South** — This for pine oils used in disinfectants. Filed May 29, 1948 by Glidden Co., Cleveland. Claims use since June 1911.

**Iscomist**—This for insecticides, larvicides, fungicides and deodorants. Filed Nov. 20, 1948 by Innis, Speiden & Co., New York. Claims use since Sept. 15, 1948.

**Arathane**—This for insecticides and fungicides. Filed Nov. 23, 1948 by Rohm & Haas Co., Philadelphia, Pa. Claims use since Oct. 8, 1948.

**Frey's** — This for vermifuge. Filed Nov. 13, 1948 by Whitehall Pharmacal Co., New York. Claims use since 1835.

**Tina Bishop** — This for cream shampoo. Filed April 23, 1948 by John M. Henderson Co., Los Angeles. Claims use since Mar. 1, 1948.

**Soapmobile**—This for toilet and bath soap. Filed Feb. 10, 1948 by The Hewitt Soap Co., Dayton, O. Claims use since Jan. 15, 1948.

**La Gloria**—This for toilet and bath soap. Filed June 30, 1948 by Hewitt Soap Co., Dayton, O. Claims use since Oct. 25, 1930.

**Cheer** — This for sudsing cleaner, cleanser and detergent. Filed Mar. 15, 1949 by Procter & Gamble Co., Cincinnati. Claims use since Mar. 3, 1949.

**Faircrest**—This for toothpastes. Filed Oct. 1, 1947 by The Fair, Chicago. Claims use since Dec. 31, 1939.

**Faircrest**—This for disinfectants and shampoos. Filed Oct. 1, 1947 by The Fair, Chicago. Claims use since Dec. 31, 1939.

**Whizz-fizz**—This for room deodorant. Filed May 4, 1948 by Hardin Chemical Co., Middletown, N. J. Claims use since Mar. 5, 1948.

**My-Cy**—This for deodorant and mildewproofer. Filed June 17, 1948 by Chemspecs Lab., Cranford, N. J. Claims use since May 10, 1948.

**Esteron**—This for weed-killing composition. Filed Oct. 27, 1948 by Dow Chemical Co., Midland, Mich. Claims use since Oct. 1, 1946.

**Lan-O-Kleen** — This for powdered hand soap dispenser. Filed Aug. 3, 1948 by West Disinfecting Co., Long Island City, N. Y. Claims use since April 1940.

**Krano**—This for surface sealer. Filed Mar. 11, 1948 by Krano Sanitary & Janitor Supply Co., Chicago. Claims use since Aug. 27, 1946.

**Searle**—This for antiseptic and germicidal solutions. Filed Oct. 7, 1948 by G. D. Searle & Co., Chicago. Claims use since 1908.

**Undecyline**—This for compound used in treatment of fungus infections of the skin. Filed Nov. 30, 1948 by Cutter Laboratories, Berkeley, Calif. Claims use since July 28, 1948.

**Kleen-Dent** — This for cleansing solution for dental plates. Filed Aug. 23, 1948 by Cleanser Materials Co., Miami, Fla. Claims use since Sept. 15, 1947.

**Hart Delite**—This for shampoo. Filed Oct. 27, 1947 by Hart Inc., Hilltown, Pa. Claims use since Sept. 15, 1939.

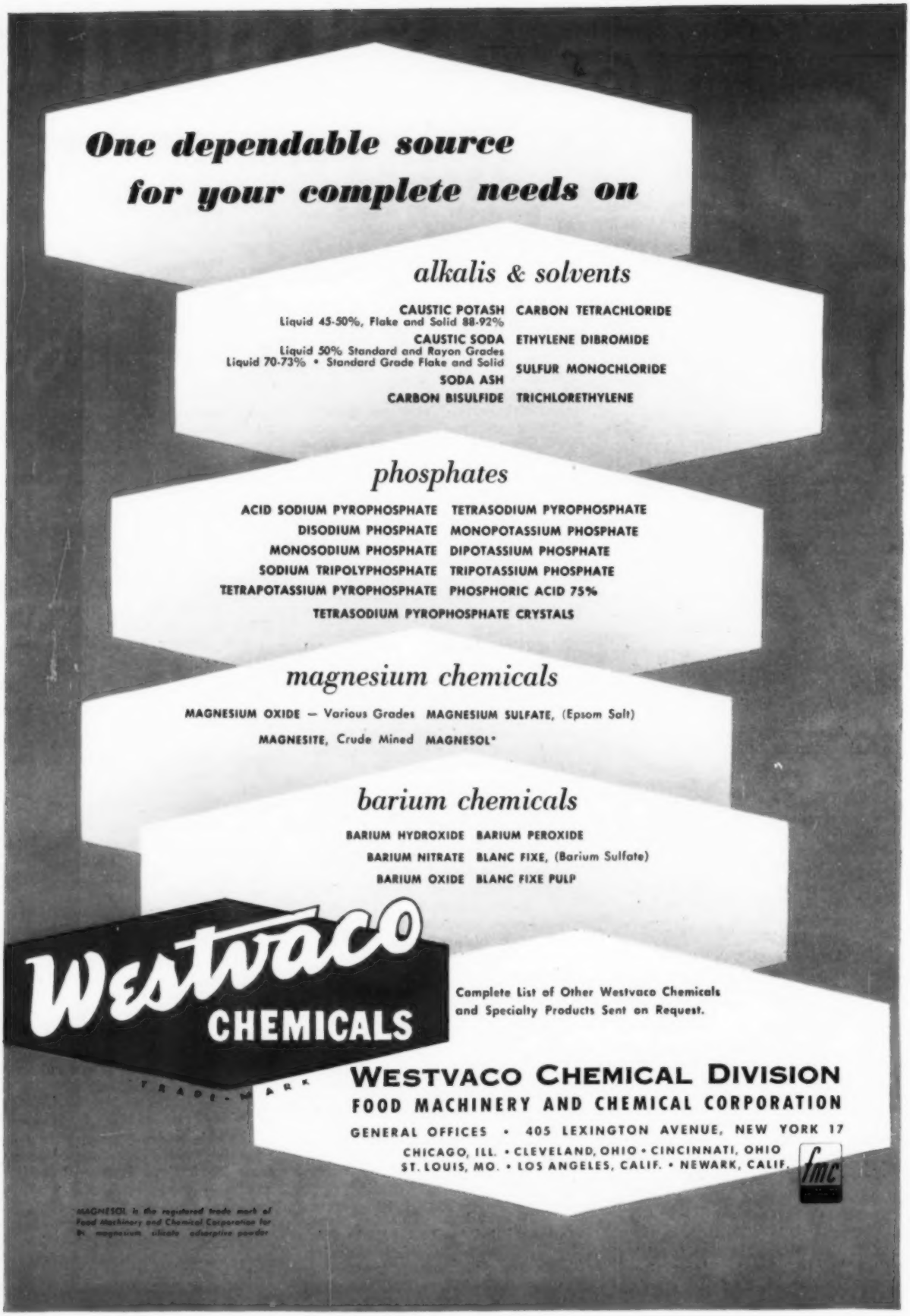
**Master-Mixed** — This for all purpose cleaner. Filed Feb. 6, 1948 by Sears, Roebuck and Co., Chicago. Claims use since July 15, 1946.

**HW Soaker Alkali**—This for inorganic detergent for general washing purposes. Filed July 22, 1948 by Diamond Alkali Co., Cleveland. Claims use since July 1, 1947.

**Skip-Stain**—This for removal of stains from fabrics caused by animals. Filed Nov. 5, 1948 by Polk Miller Products Corp., Richmond, Va. Claims use since Sept. 20, 1948.

**Subath** — This for sudsing cleaner and detergent. Filed Nov. 26, Gamble Co., Cincinnati. Claims use since Mar. 5, 1913.

**RSR**—This for enzymatic cleaning compounds. Filed Jan. 7, 1949 by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Liquid 50% Standard and Rayon Grades
Liquid 70-73% • Standard Grade Flake and Solid
SODA ASH
CARBON BISULFIDE
CARBON TETRACHLORIDE
ETHYLENE DIBROMIDE
SULFUR MONOCHLORIDE
TRICHLORETHYLENE
phosphates
ACID SODIUM PYROPHOSPHATE
DISODIUM PHOSPHATE
MONOSODIUM PHOSPHATE
SODIUM TRIPOLYPHOSPHATE
TETRAPOTASSIUM PYROPHOSPHATE
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MAGNESIUM OXIDE — Various Grades
MAGNESITE, Crude Mined
MAGNESIUM SULFATE, (Epsom Salt)
MAGNESOL*
barium chemicals
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*MAGNESOL is the registered trade mark of Food Machinery and Chemical Corporation for its magnesium silicate adsorptive powder

Wallerstein Co., New York. Claims use since July 1936.

**Odoway**—This for room deodorants. Filed July 30, 1948 by O-Cedar of Canada Ltd., Toronto, Canada. Claims use since Dec. 11, 1944 in Canada.

**UIR**—This for shampoos. Filed May 25, 1948 by United International Research, Inc., Newark, N. J. Claims use since Spring of 1942.

**Citrosynth** — This for odor preparation for use in disinfectants, insecticides. Filed Aug. 25, 1948 by Florasynth Laboratories, Inc., New York. Claims use since July 13, 1945.

**Janitizer**—This for deodorant and disinfectant dispensing machine. Filed Oct. 7, 1947 by Central Distributors Co., Tyrone, Pa. Claims use since May 2, 1947.

**Detrex**—This for alkali cleaners, degreasing solvents. Filed Jan. 14, 1948 by Detrex Corp., Detroit. Claims use since Dec. 20, 1935.

**Premier**—This for sprayers applying insecticides and germicides. Filed May 4, 1948 by Lowell Specialty Co., Lowell, Mich. Claims use since April 5, 1946.

**Golden Fleece**—This for washing, waxing and polishing pads. Filed Dec. 5, 1947 by S. M. Arnold, Inc., St. Louis, Mo. Claims use since Jan. 10, 1938.

**Drawing of head of woman**—This for toilet and bath soap. Filed May 24, 1949 by Procter & Gamble Co., Cincinnati. Claims use since Jan. 1946.

**Dig**—This for detergents and soap for dishes. Filed Oct. 27, 1948 by Patrick R. Gibbons Co., St. Louis. Claims use since June 1, 1948.

### Capkovitz in Seaforth Post

The appointment of Stephen G. Capkovitz as chief chemist and perfumer of Seaforth, Inc., Prince Matchabelli, Inc., and Sofskin Co., subsidiaries of Vick Chemical Co., New York, was announced recently by Hugh D. McKay, chairman of the board of Seaforth and Prince Matchabelli. Mr. Capkovitz was formerly chief chemist of Yardley of London, Inc., New York, prior to which he served in a similar capacity for Albert Verley and Co., Chicago. At one time he was assistant perfumer of Norda Essential Oil and Chemical Co., New York. He is a graduate of New York University and has continued his studies at Columbia University and Brooklyn Polytechnic Institute.

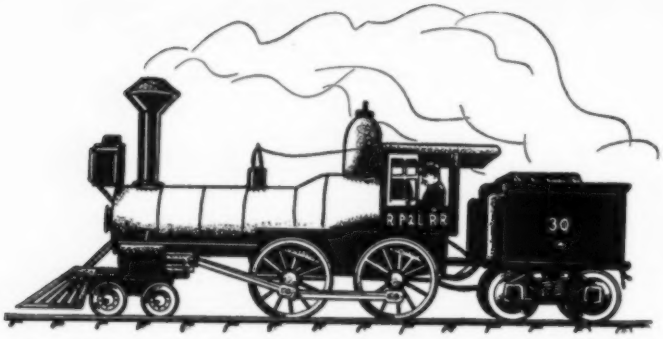
## "Tide" No Rinse Demonstration

WASHING demonstrations showing how family clothes can be washed without rinsing were held in New York during January for newspaper, radio, television and magazine and trade press by Procter & Gamble Co., Cincinnati. Using "Tide" synthetic detergent, a bundle of soiled clothes was washed in a standard vertical type washing machine. After the initial washing operation the clothes were put through the wringer once and inspected by press representatives. In addition, previous washes of clothes that had been rinsed and those that were not rinsed were hung on lines for inspection. Time, labor and water savings were stressed at the New York demonstrations, held at the Gotham Hotel. It is expected similar demonstrations will be held in other cities in the U. S. No change in formulation of "Tide" as a no-rinse detergent was made according to a P&G representative, although on cartons of the material now on sale in retail stores it is stated that clothes washed in "Tide" should receive two rinsings. "Tide" now comes in three size packages: a giant size of three pounds, one ounce that is retailing in New York chains for 69 cents; a regular size of one pound, two ounces that retails for 26 cents; and a small size package of 6 8/10th ounces, which has not as yet reached retail stores in the metropolitan New York area. A similar "Tide" washing demonstration was held in Chicago at a luncheon for press, radio, television, home economists and extension service people at the Blackstone Hotel, Jan. 27. Representing Procter & Gamble at both the New York and Chicago showings were O. M. Gale, assistant director of public relations; H. H. Besudin of the public relations department and Roland Hauber, a chemical engineer.

### Diamond Changes

Establishment of an export sales division to coordinate foreign sales of alkalies and related chemicals, with headquarters at 122 E. 42 St., New York, was announced recently by Diamond Alkali Co., Cleveland. The new division is headed by S. S. Savage, director of sales, who held a similar position previously with the former Diamond subsidiary, Martin Dennis Co., Kearny, N. J., which has just been made an operating division of Diamond. Also announced recently by Diamond is the changing of the name of Emeryville Chemical Co., Emeryville, Calif., to Diamond Alkali Co. of California. The firm continues as a wholly-owned subsidiary of Diamond.

The leading members of the Schimmel & Co., Inc. sales force at a recent meeting at the head offices of the company in New York. From left to right, seated, are J. H. Hille of the Chicago territory, D. Blanchard of New York, Basil Pegushin, perfume chemist. Standing left to right: H. H. Eickmeyer, senior of the New York sales staff, Roy J. Huttleston, perfume chemist and soap perfume specialist, Gert Keller, head of the company, Marvin P. Yates of the St. Louis territory and B. G. Wirsing, sales manager.

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| Corn | Sesame |
| Cottonseed | Soybean |

**ANIMAL FATS**

| | |
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| Sperm Oil | Grease |
| Oleo Stearine | Tallow |
| Lard | Lanolin |

Neatsfoot Oil

**FATTY ACIDS**
**MINERAL OILS**
**PETROLATUM**
**ALKALIES**
and other chemicals
**STARCH and SOURS**
**SILICATE OF SODA "METSO"***
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Unique surface active agents; prolific foam; high detergency and emulsifying powers: suitable for cosmetic and industrial use.

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SINCE 1838, we've been supplying the nation's "soapers" with basic raw materials—everything from Acid oils and Adeps Lanae to Waxes and Wetting agents.

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# RAW MATERIAL MARKETS

**As of February 7, 1950**

ON the whole, fats and oils prices on this date are at levels slightly above those of a month ago. Price increases were general, and the current positions represent something of a decline from advances made earlier in the month and late in January. Lard seems to be the exception to the general upward trend in prices. Currently it is quoted at .1042 cents, as against 10½ cents on approximately this date in January. Tallow at 6⅜ cents is up ⅛ of a cent from the January quotation, having advanced to 6¾ cents in recent days. Coconut oil is currently quoted at 14½ cents a pound, as compared with 14 cents on Jan. 3. Copra prices have increased, too, in recent weeks from the January price of $182.50, crude basis, Pacific Coast, to $192.50. Other oils that moved to higher levels in the past 30 days include cottonseed, up ½ cents to 11 cents; soybean, also selling for 11 cents, as against 10½ cents on Jan. 3; and peanut oil, currently bringing 13½ cents, shows a gain of one cent over the early January quotation. It is interesting to note that current prices are close to the range prevailing a year ago, when the bottom of the big decline from top pre-war price levels was reached.

Purchase of approximately 24 million pounds of lard was announced Jan. 25 by the U. S. Department of Agriculture. An additional quantity of one million pounds under an ECA requisition for Germany was purchased at an average price of 11.73 cents under an opening of Jan. 25. A further opening was announced by the U. S. D. A. to acquire substantial additional amounts of lard for Germany under Economic Cooperation Administration requisition. These purchases are in addition to 100 million pounds already purchased under similar ECA requisitions for Germany and Austria.

In a preview of the fats and oils situation for the coming year, the Department of Agriculture recently indicated that production from domestic materials will run to around 12 billion pounds, including oil equivalent of soybeans and peanuts exported for crushing abroad. This is about two percent larger than output in 1948-49, and is well above the wartime peak of 11 billion pounds. An increase of 13 percent in the 1949 pig crops will result in a substantial rise in the production of lard and greases in 1949-50. Total production of inedible tallow and greases may expand about five percent over the 2.1 billion pounds produced in 1948-49. An unusually large percent of the total output of fats and oils for the marketing year apparently has been produced early in the season. Production in September, 1949 was 20 percent larger than a year earlier, mainly as a result of early marketing of hogs from the 1949 spring crop, and of early maturity and crushing of 1949 crop soybeans.

A reduction in U. S. fats and oils exports to Europe is anticipated during 1950, it was reported recently by Dr. L. J. Norton, agricultural economist of the University of Illinois, who returned recently from a trip to eight European countries to study at first hand developments affecting the demand for oils and fats there. Although Europe's acute shortage of food fats has ended, the U. S. will continue to ship substantial quantities of fats and oils to Western European countries, it was stated. Increases in the production of slaughter fats and olive oil were predicted for 1950. Supplies of soft (liquid) oils are still short in non-dollar areas. Inedible tallow and grease will be sold to a number of countries because of the low cost of these materials and the shortage of other fats available for soap manufacture.

Production and exports of palm oil in 1949 in the Belgian Congo were about the same as the record level established in 1948, it was learned recently. In 1948, palm oil production amounted to 171,900 short tons, which was about 16 percent above the previous year's output. In the first nine months of 1949, exports of palm oil amounted to 91,960 tons, and palm kernel oil shipped from the Belgian Congo totaled 12,300 tons. Palm oil exports were 121,680 tons and palm kernel exports 19,400 tons for the entire year of 1948. Shipments of palm oil to Belgium and the United States, the largest purchasers, are averaging smaller than in 1948.

Figures on U. S. imports and exports of insecticidal materials during October, were issued recently by the Department of Commerce. Rotenone imports, all from Peru, amounted to 509,000 pounds, an increase of 46 percent over September receipts. Pyrethrum imports during October were 931,000 pounds, of which 773,000 came from British East Africa. The month's total was 60 percent larger than that of the previous month, and was the largest of any month since June. The first shipment of pyrethrum from India in several years was received in October and amounted to 112,000 pounds. Exports of pyrethrum extract in October were 3,235 pounds, 1,800 to Canada and 1,100 to Cuba, a rise of 910 pounds over September, the highest since May. Exports of paradichlorobenzene were 71,700 pounds in October, the lowest total of any month in 1949. Canada received 63,000 pounds.

---

**Esselen, U. S. Testing Merge**

The merger of Esselen Research Corp., Boston, with U. S. Testing Co., Hoboken, N. J., was announced recently.

# RENEX

Give your cleaners new specialty properties—add RENEX to your formulas. RENEX is high in power, low in cost. RENEX is unique . . . effective . . . versatile. An example . . .

**MACHINE DISH-WASHING COMPOUND**

| | |
|---|---|
| **RENEX** | 5% |
| Sodium Hexametaphosphate | 15% |
| Sodium Meta silicate | 25% |
| Sodium Sesqui carbonate | 55% |

# SPANS and TWEENS

The famous Atlas Spans and Tweens are emulsifiers that are particularly adaptable for the formulation of specialty cleaners. Try this novel formula . . .

**HAND CLEANER**

| | |
|---|---|
| Kerosene (deodorized) | 65% |
| **ATLAS TWEEN 85** | 5% |
| **ATLAS TWEEN 80** | 15% |
| Water | 15% |

*Preparation:* Mix kerosene, Tween 85 and Tween 80 and heat to 40° C. Add water with moderate agitation.

If you have a problem in compounding—write Atlas today!

**NOTE:** *Of course, the foregoing formulas are meant to serve only as a guide to show typical uses of RENEX, SPANS, and TWEENS. They are not intended to be warranties and no patent liability is assumed.*

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# BIDS AND AWARDS

## Wax Award to Tumbler

In a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., on an unspecified quantity of floor wax, J. A. Tumbler Laboratories, Baltimore, received the award with a bid of 60.5 cents.

## N. Y. Navy Grit Soap Bids

Bids on an unspecified quantity of grit soap in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, were received from Wm. Messer Corp., New York, item A, 6.64 cents; John T. Stanley Co., New York, items A through C, 7.5 cents; Day & Frick, Philadelphia, item A, 5.15 cents; item B, 5.45 cents; item C, 5.4 cents and item D, 6.15 cents; and M. Schneider & Sons, Brooklyn, item A, 5.73 cents; item B, 6.03 cents and item C, 5.93 cents.

## P. O. Auto Soap Award

Harley Soap Co., Philadelphia, received the award on an unspecified quantity of auto soap with bids of 7.25 cents per pound on item 1, 6.4 cents on item 2, 5.5 cents on item 3 and 5.3 cents on item 4, in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C.

## Low Misc. P. O. Bids

Among the low bids received in recent openings for miscellaneous supplies by the Post Office Department, Washington, D. C., were those of: Bri-Test, Inc., New York, 42½ cents on 700 gallons of floor wax; R. L. Carlisle Chemical & Manufacturing Co., Baltimore, Maryland, 72 cents on 4,000 gallons of cleaner and renovator; Day & Frick, Philadelphia, 4.7 cents on 700 pounds of grit soap; Kamen Soap Products Co., Barberton, O., f.o.b. Barberton, 8.9 cents and f.o.b. Washington, 9.3 cents; R. M. Hollingshead Corp., Camden, N. J., 39 cents and Bri-Test, Inc., New York, 39.7 cents on 1,200 gallons of metal polish; Bri-Test, Inc., New York, 39.4 cents and Penetone Co., Teaneck, N. J., 39.7 cents on 1,200 gallons of furniture polish; Crown Supplies, Washington, D. C., $1.08 on 200 gallons of bronze cleaner.

## Deodorant Block Awards

The following awards were announced on deodorant blocks in a recent opening for miscellaneous supplies by the Veterans Administration, Washington, D. C.: A. M. R. Chemical Co., Brooklyn, items 2, 5 through 8, 11 through 15, 17-19, 21-25, 27-30, 32-36, 38-45, 47-52, 55, 57-60, 62, 63, 67-71, 73, 75, 76, 78-84, 86, 89-92, 94; Tesco Chemicals, Atlanta, items 4, 16 and 66; Frank J. Curran Co., Downers Grove, Ill., items 1, 3, 9, 10, 20, 26, 31, 37, 40, 46, 53, 54, 56, 61, 64, 65, 72, 74, 77, 85, 87, 88 and 93.

## P. O. Toilet Soap Bids

In a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C., the following bids on 3,000 pounds of toilet soap were received: Swift & Co., East Cambridge, Mass., 10.38 cents a pound, f.o.b. New York, 11.4 cents; Kamen Soap Products Co., Barberton, O., two ounce cakes, 9.22 cents, f.o.b. New York, 9.88 cents, three ounce cakes, f.o.b. Barberton, 9.38 cents, f.o.b. New York, 9.98 cents; Colgate-Palmolive-Peet Co., f.o.b. New York, 12.088 cents; City Sanitary Supply Co., f.o.b. New York, 21 cents.

## V-A Award to Economics

Economics Laboratory, Inc., St. Paul, Minn., received the contract of 504,400 pounds of dishwashing compound for hospitals and homes of the Veterans Admisitration, Washington, D. C., it was announced recently. The amount of the contract was $51,631. The compound, to be used in mechanical dishwashing machines, will be supplied to the V-A during the first half of 1950. The Economics Laboratory bid includes delivery costs to V-A hospitals and homes throughout the U. S.

## Auto Soap Award to Harley

Harley Soap Co., Philadelphia, received the award on an unspecified quantity of automobile soap with its bid of 53 cents in a recent opening for miscellaneous supplies by the Army Ordnance, Raritan Arsenal, N. J.

## Low Bid on Engine Cleaner

Crystal Soap & Chemical Co,. Philadelphia, submitted a low bid of $1.061 on an unspecified quantity of engine cleaning compound in a recent opening for miscellaneous supplies by the Philadelphia Aviation Supply Office, Philadelphia.

## Retires from Wyandotte

Retirement of C. B. Robinson, vice-president of Wyandotte Chemicals Corp., in charge of the J. B. Ford Division, Wyandotte, Mich., was announced recently by Robert B. Semple, president. Mr. Robinson is continuing to serve as a Wyandotte sales consultant. Mr. Robinson joined the J. B. Ford Co. in 1917, eventually becoming president of the sales company in 1929. In 1943, when the company was made a division of Wyandotte, he became vice-president of the parent organization.

## New Fritzsche Price List

Fritzsche Brothers, Inc., recently announced the issuance of their latest wholesale price list on essential oils, aromatic chemicals and related chemicals. Copies are available, but are limited to those who buy in wholesale quantities.

## E. R. Stirling, Sr., Dies

Edward R. Stirling, Sr., 50, a sales executive of Diamond Alkali Co., Cleveland, died of a heart attack Dec. 24. As a special representative for the firm to the petroleum industry, he was assigned to the firm's general headquarters in Cleveland on Oct. 1, 1949, after previously having diverse administrative duties, including labor relations assignments, for the silicate division since Mar., 1947.

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and
MAYPON K
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Household
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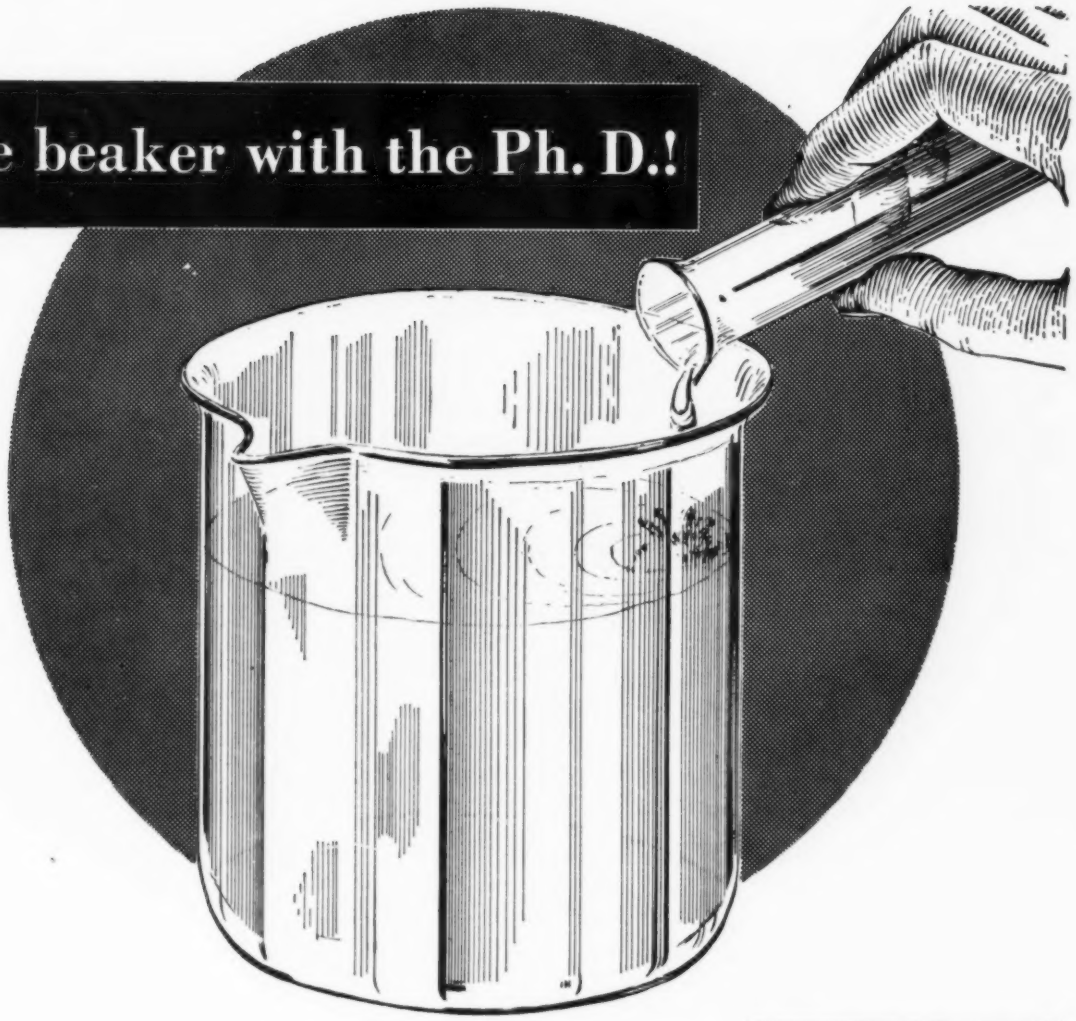
# The beaker with the Ph. D.!



This particular beaker works in our research lab. One thing it has revealed about FATTY ACIDS is their versatility. Since we first bought it, we've seen the fatty acid industry change immeasurably.

Manufacturers who once considered fatty acids as crude products, now are recognizing the fact that fatty acids are *not* stepchildren. They can see, thanks to this beaker and thousands like it, that fatty acids are products for which new applications are being found at an amazing pace.

Write for our booklet, "Fatty Acids in Modern Industry," for more information on how progress improves your product.

**Typical Analysis**
**RED OIL**

| | |
|---|---|
| Titre °C | 8°—10° |
| Cloud Point °F | 46°—49° |
| Color Lovibond 1" Red | 5 — 8 |
| Color Lovibond 1" Yellow | 20 —40 |
| Unsaponifiable % | 2.0%—2.5% |
| Saponification value | 196—199 |
| Acid Value | 195—198 |
| % F.F.A. as Oleic Acid | 98%—99.5% |
| Iodine Value | 88 —91 |

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Baker & Gaffney
Philadelphia 7, Pennsylvania

Braun-Knecht-Heimann Company
San Francisco 19, California

J. C. Ackerman
Pittsburgh, Pennsylvania

James O. Meyers & Sons
Buffalo, New York

Braun Corp.
Los Angeles 21, California

Thompson Hayward Chemical Co.
Kansas City 8, Mo. (and Branches)

Moreland Chemical Company
Spartanburg, S. C.

Smead & Small, Inc.
Cleveland 15, Ohio

Charles Albert Smith, Ltd.
Toronto 3, Canada

J. W. Stark Co.
Detroit 2, Mich.

# HIGHER SPEEDS TIGHTER WRAPPING

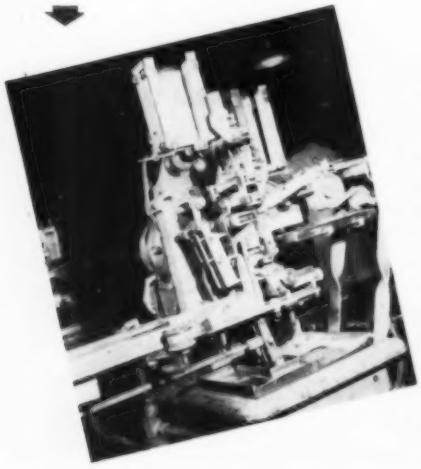
## *with* VAN BUREN *Soap Wrappers*

### 200 PER MINUTE TOILET SIZED CAKES

*Model "S"*, right or left hand machine, wraps cakes 3″ to 4¾″ long, 1⅞″ to 3″ wide, and ¾″ to 1⅝″ high, with cut inside and outside wrappers and glue-sealed ends, at the rate of 200 cakes per minute. The action is completely automatic from magazine feed to delivery table. Soap is carried through the machine at a 90° angle. Results are: ***A tighter wrap at higher speed, and increased production.*** (Also made in other sizes.)

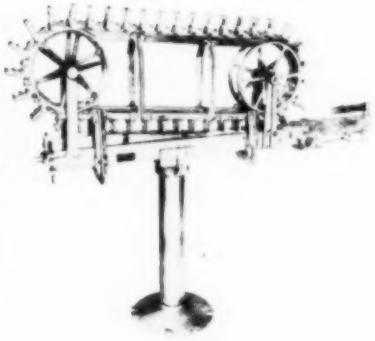
### 300 PER MINUTE HOTEL SIZED CAKES

*Model "M-S,"* a small, compact machine, of individual design, automatically wraps ½ to 2 oz. cakes of soap, using cut inside and outside wrappers and glue-sealing the ends, in a single straight-line operation, resulting in ***a tighter wrap at high speed.***



### AUTOMATIC CUTTING MACHINE

Motorless, continuous cutters, activated by extrusion of the plodder soap bar. Cutting action automatically timed to extrusion speed. Scrap ends eliminated. By simple adjustment of each knife, or by substitution of another cutter track, (requiring the removal of a single bolt), cakes of different sizes can be cut on the same machine. Eliminates table cutting.



## HOUCHIN MACHINERY CO., INC.

*Exclusive world wide distributors for the soap industry*

HAWTHORNE, NEW JERSEY, U. S. A.

PRODUCTION SECTION

# Measuring Detergent Power

**By laboratory tests physical properties of a detergent solution can be measured to determine the value of the detergent. The real test is in operating conditions.**

IN each stage of washing, one or more physical properties of the detergent solution is involved, so that measurement of these properties gives some measure of the value of the detergent.

### *Measuring Wetting Power*

TOO much emphasis has been placed on wetting power. It is probably of little importance if a detergent can wet a piece of fabric in five seconds or 20 seconds. In a washing test of say 20 minutes, the time taken for complete penetration is unimportant so long as it is less than about 60 seconds. Actually it is found that a curve of surface tension against concentration follows almost exactly the curve of wetting time against concentration.

Surface tension is probably quite adequate as a means of measuring the power of a detergent solution to penetrate fabrics, and it has the advantage that it is a mathematical quantity which can be measured reproducibly by a variety of different methods. The results can be quoted and are understood internationally. The easiest method is with the DuNouy Tensiometer. Any detergent with a surface tension of less than 30 dynes at 20° C. and 0.1-0.2 per cent concentration is a powerful wetting agent. Most detergents will have surface tensions in the range 23-35 dynes per cm. at 20° C. and the concentration mentioned.

### *Loosening Power*

FOR effective loosening power, or the ability of a detergent solution to displace oil from a fabric, the detergent-fabric adhesion tension must be greater than the oil-fabric adhesion tension, which can be expressed mathematically in terms of contact angles. In other words, the fabric must be more easily wet by the detergent solution than it is by the oil. Since oil-fabric adhesion tension is fixed for a given soiled fabric, efficient removal of greasy soiling matter from a fabric depends chiefly on a low surface tension of the detergent solution and a low interfacial tension between the detergent solution and the oil. Low interfacial tension against oils is one of the most important single characteristics of a good detergent. An interfacial tension of less than 10 dynes per cm. against spindle oil at 50°C. and at a concentration of 0.1 per cent would probably indicate a fairly good detergent.

### *Emulsifying, Suspending Power*

ONCE the soiling matter has been removed from a fabric, it is necessary to maintain it in such a condition that it is not redeposited on the clean fabric. To achieve this, the solution must be capable of emulsifying the greasy soiling matter, and maintaining the mineral dirt in a stable suspension. Most of the usual emulsifying tests are not fair. Washing is a dynamic process, and the emulsions formed are coarse and break very quickly on standing. Moreover, these tests do not check the liability of the emulsion to invert. Measurement of interfacial tension against oils is probably quite adequate as a guide to emulsifying power, although it does not tell the whole story.

A recent method of assessing dispersing power measures the power of maintaining in suspension an artificial soil consisting of burnt umber and various oils. The turbidity of suspensions of the material in detergent solutions is measured visually. The trouble with this is again that it is a static method, and washing is dynamic. Perhaps a better method is that in which clean fabric is washed in a standard suspension of ilmenite in a detergent solution. At the end of the wash, the fabric pieces are examined photo-electrically to see how much ilmenite has settled on them. This procedure measures the power which the detergent solution has to prevent the redeposition of soiling matter onto clean fabric, and gives reproducible results. It is a characteristic of great value in assessing detergent power.

### *Lather*

ABILITY to form lather is of no value. A small volume of foam may be of use in washing as a "cushion" which prevents fabrics from excessive wear by rubbing against one another. Beyond the small amount re-

# SOAP PERFUMES

to match the new
floral trend

**LILAS 1105**

**TUBEREUSE 1105 RD**

**JASMIN 1105 RD**

**Roure-Dupont, Inc.**

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quired for this purpose, foam volume has no function except for its advertising value.

### *Small-Scale Washing Tests*

IN laboratory washing experiments, the solution:fabric ratio is much higher than that used in practice. A characteristic of much more value is the dirt:detergent ratio, since it would appear to be most reasonable to compare detergents on the absolute amount of dirt removed and retained in suspension per unit weight of detergent. For a laboratory wash, the dirt:detergent ratio was found to be 0.26, while for the laundry washing of heavily soiled overalls it was 7.0. The reason for the superior efficiency of laundry washing against laboratory washing is that the degree of agitation and rubbing in the former process cannot adequately be reproduced in the laboratory. Laboratory washing experiments are particularly suspect in products of poor suspending power.

### *Large-Scale Washing Tests*

THE only real test of a detergent is to assess its value under full-scale conditions, and a laundry or domestic washing machine is best suited for this purpose. A single washing experiment with heavily soiled overalls or towels is of little value. It is necessary to wash the same load time after time, and assess the results after twenty washes. Any tendency for soiling matter to be re-deposited on the fabric is shown by the appearance of the test piece, while deposits of calcium soaps from hard water, or damage from overbleaching, etc., can be assessed chemically.

In the laboratory measurement of interfacial tension against oil, and of suspending power, probably cover all of the necessary requirements in a detergent, since some of the other properties are inherent in these. A product with a low interfacial tension against oil will almost certainly have a low surface tension also. It will be therefore a good wetting agent and will foam to some extent. Good suspending power usually implies colloidal properties, and colloids are frequently emulsifying agents. This conclusion cannot be accepted too rigidly, but as a rule, products judged on these two characteristics alone will probably be found quite satisfactory in use. K. Tomlinson, *Manufacturing Chemist 20*, 477-80 (1949).

◆

### Sodium CMC in Soap

Investigations of the influence of sodium carboxymethylcellulose on the suspending power of soap and soap-builder solutions indicate that the sodium carbovymethylcellulose is of no advantage when used with soap solutions, but when used with mixtures of soap and builder it prevents the deposition of suspended matter, thus permitting the use of less soap. A. S. Weatherburn and G. R. F. Rose, *Laundry and Dry Cleaning*, J. Dec. 1948).

## Household Stain Removers

THE desirable features of an ideal household stain remover are: Efficient removal of a wide range of stains or soils, nonflammability, nontoxicity and freedom from objectionable odor, and preferably a water-white solution. Carefully balanced mixtures of organic solvents are usually relied on for domestic use. Such mixtures should remove a wide range of common stains, including oils, greases, grease-bound dirt, tars, paints, varnishes, and soot. Since some types of dirt are more readily susceptible to the action of aqueous detergent solutions, many attempts have been made to combine solvent mixtures with water and water-soluble detergents. The chief problem involved in this type of product is not the compounding of a stable, well-balanced preparation, but the ever-present risk of redeposition of the soil on the fabric. This is always a problem with solvent soaps. What happens is that the dispersed solvents are less effective initially in dissolving the greasy or tarry portion of the stain, and when the latter is partially or wholly dissolved, the solvent and grease tend to precipitate from the dispersion. The only practical approach is to make the liquid either predominantly organic solvent in type or else predominantly aqueous detergent. A 50:50 type of product is much more likely to redeposit dirt as a result of its combined action.

Another problem that faces the compounder of a solvent and water mixture is prevention of metal corrosion, which is particularly liable to occur when chlorinated solvents are present. Inclusion of a corrosion inhibitor of the amine or other suitable type is desirable.

The following formulas are of solvent mixtures:

| | *Parts* |
|---|---|
| Kerosene | 20 |
| Carbon tetrachloride | 70 |
| Benzine | 10 |

| | *Parts* |
|---|---|
| Carbon tetrachloride | 65 |
| Ethyl acetate | 8 |
| Benzol | 8 |
| Isopropyl alcohol | 5 |
| Acetone | 9 |
| Tetrahydrofurfuryl alcohol | 5 |

Acetone has a dissolving action on rayon, so that such fluids should carry some words of caution as to discretion in use.

Dry-cleaning soaps absorb moisture on fabrics, permitting greater penetration and detergency by the solvents. They tend to remove a wider range of stains than do simple solvent mixtures, but even so they should not be present in sufficient quantities to allow redeposition on the fabrics. Examples of soap-solvent combinations are:

| | *Parts* |
|---|---|
| Carbon tetrachloride | 35 |
| Acetone | 15 |
| Isopropyl alcohol | 12 |
| Butyl cellosolve | 8 |
| Benzine | 10 |
| Oleic acid | 8 |
| Triethanolamine | 3 |
| Water | 9 |

| | *Parts* |
|---|---|
| Oleic acid | 2.5 |
| Caustic potash, 50° Be | 2.0 |
| Water | 2.0 |
| Butyl Cellosolve | 5.0 |
| Alcohol | 50.0 |
| Trichloroethylene | 40.0 |

Where water is present with a chlorinated solvent, a corrosion inhibitor

# Methocel: the Excellent Emulsion Stabilizer

Do you have a product that needs stabilization—thickening? METHOCEL, Dow Methylcellulose, now in *powdered* form, is an outstanding emulsion stabilizer and thickener.

This versatile ingredient is bland, physiologically inert, odorless, colorless, stable in viscosity and uniform in its thickening properties. When used as an additive to shampoo, METHOCEL gives a stiffer suds, improved texture and lathering properties, and an added smoothness to the lather.

METHOCEL can also be used to extend soap by reducing fat consumption, to harden bar soap, extend liquid soap and thicken disinfectants.

Get acquainted with the *new* METHOCEL, *powdered*. Write or phone us for additional uses of METHOCEL in the soap and sanitary industry. Send for free, experimental sample of the *new* METHOCEL, *powdered*.

**THE DOW CHEMICAL COMPANY · MIDLAND, MICHIGAN**

THE new *methocel*

**DID YOU GET YOUR SAMPLE?**

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Please send free sample of METHOCEL, for use in_____
Check viscosity desired: 15, 25, 100, 400, 1500, 4000 cps.

Name and Title_____

Firm_____

Address_____

DOW

CHEMICALS

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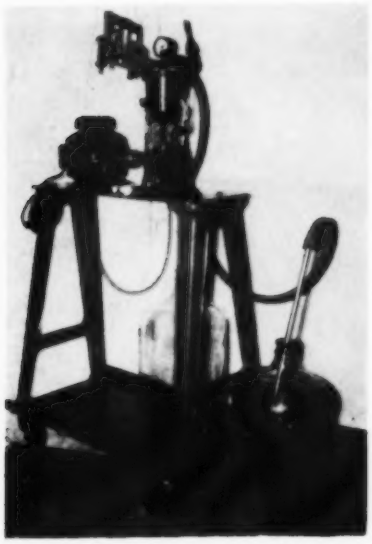
should be included. Problems of redeposition, stability, etc. place limits on the variations which can be employed successfully in solvent composition. W. G. McAllister, *Soap, Perfumery, Cosmetics* 22, 1115-18, 1126 (1949).



Now available mounted on a portable stand (shown above) is the portable vacuum filler of Scientific Filter Co., New York. The stand is of bench height so that the unit can be moved into position next to any bench where bottling is done. The overflow jug, previously mounted alongside the filling unit, is now located on a shelf below. When full it can be used as liquid supply for filling of containers.

### Labeler for Free Trial

Nelson Label Machine Corp., Newark, N. J., announced recently that its autofeed labeler is available for a free, 10-day trial. The machine is available in three sizes.

### New Industrial Deodorants

The development of a line of agents used for reducing unpleasant odors in fatty acids, tall oil and similar materials was announced recently by the Chemical Division of 44 Trinity Place Corp., New York. The odor reduction materials are not masking or covering agents, according to the maker, but reduce unpleasant odors to the point at which there is only a slight identifying odor remaining. Color retention and color reduction as well as odor reduction in fatty acids such as stearic acid, red oil, white olein, cottonseed fatty acid, soybean fatty acid are obtainable also.

### New Wyandotte Solvents

The full-scale commercial production of five new chlorinated solvents, which find application in assisting the action of various soap and scouring solutions in textile processes, as solvents, extractants and in insecticides, was announced recently by Wyandotte Chemicals Corp., Wyandotte, Mich. The solvents will be produced at Wyandotte's modern glycol plant. They are designated as Solvent C96, C110, C160, Betachlor and Solvent R. Solvents C96, C110 and C160 consist principally of chlorinated aliphatic compounds, but Solvents C110 and C160 also contain certain chlorinated aromatic compounds. "Betachlor" is Wyandotte's trade name for a dichloroethers product consisting of approximately 60 per cent dichloroethyl ether and approximately 40 per cent dichloroisopropyl ether. Solvents C96, C110, C160 and Betachlor are all clear water-white to pale-yellow colored liquids. Solvent R is similar to Betachlor in that it consists predominantly of dichloroethers, but this liquid product is offered at substantially reduced price for the reason that it is dark brown in color, resulting from the presence of a very small percentage of impurities.

### Tygon Tubing Booklet

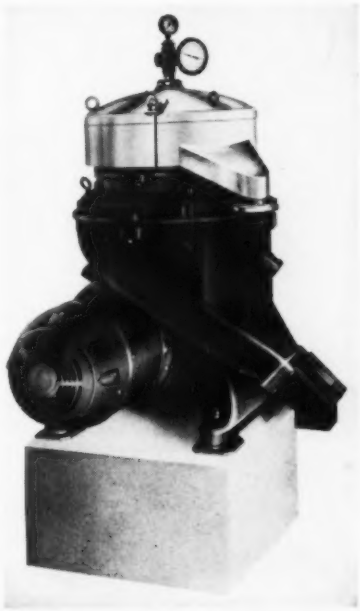
A 24-page booklet on formulations, use, properties and chemical resistant characteristics of "Tygon" plastic tubing was issued recently by U. S. Stoneware Co., Akron, O. Copies are available by writing the firm at P. O. Box 350, Akron 9.

### New Tablet Dish Washer

A new dishwashing compound, in the form of a tablet, was announced recently by Trylon Products Corp., New York. The new item, known as "Tylo," is an effervescent tablet that produces profuse suds when dropped in water.

### New Sharples Centrifuge

A new line of centrifuges featuring external control of solids discharge and solids consistency was announced recently by Sharples Corp., Philadelphia. The Sharples DV-2 centrifuge employs the stratification principle of high separating efficiency combined with high capacity, and develops a centrifugal force equal to 6,200



times the force of gravity. Ten externally controlled solids discharge valves are located radially around the inside of the bowl. They are operated by admission of water or other operating liquor through a separate channel of the centrifuge. Since both the frequency and duration of valve opening are precisely adjustable, control over the consistency of solids; minimized loss of mother liquid with solids, and greater scope of centrifugal application are provided. The DV-2 centrifuge is available as either a separator or clarifier. A bulletin (1243) giving complete details is available by writing the company at 2309 Westmoreland St., Philadelphia 40.

### Michel Data Sheets

Latest additions to the "Michelene Guide to Surface Active Agents" include data sheets on a concentrated surface active agent and a low-cost wetter, it was announced recently by M. Michel and Co., New York. The file size bulletins are available to chief chemists, production managers and purchasing agents representing potential users in the chemical industries.

# 'ROUND THE CLOCK PROTECTION... against excess cloudiness in liquids or gases

• Do you want to filter to a fixed acceptance point of clarity . . . and maintain that standard . . . continuously . . . during your processing?

Do you want to know . . . instantly . . . when suspended solids vary, during processing, as little as a fraction of one part per million?

Do you want to record . . . accurately . . . the variations of cloudiness in a liquid or gas during processing?

The Purifil will do any or all of these things . . . not in the laboratory . . . but while your product is in production. It becomes a part of your production line equipment . . . on the job all the time.

Here's how it operates. The liquid or gas is by-passed from a suitable point in the process line and passes continuously through the inspection chamber. You set the dial to the acceptance point you wish to maintain. As long as this point is not exceeded, a green light shows. Should cloudiness increase even as little as one-half part per million, a red light appears, an alarm sounds, or a relay-actuated remote indicator, recording meter, proportional controller, or cut-off valve is set in operation.

No more guessing. With a Purifil on the job you know . . . instantly . . . accurately . . . when any variation in cloudiness occurs during processing.

In the processing of edible fats, fatty acids, soaps, oils, detergents, dyes, cosmetics, and a host of other products, the Purifil has numerous practical applications. Its amazing accuracy and dependability have been fully demonstrated and proven in daily production operation. Wherever used, this equipment is providing continuous control of product quality and showing substantial savings in man-hours.

**DETECTS** suspended solids in liquids or gases in concentrations of less than one part per million.

**SIGNALS** when a predetermined acceptance point is exceeded.

**DIVERTS.** Will actuate a valve to divert flow until acceptance point is regained.

**RECORDS.** Will actuate a recording device to indicate variations in the amount of solids in suspension.

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Full details about the PURIFIL together with charts, specifications, operational data and examples of specific applications are contained in our bulletin No. 512. Write for your copy today. There's no obligation.

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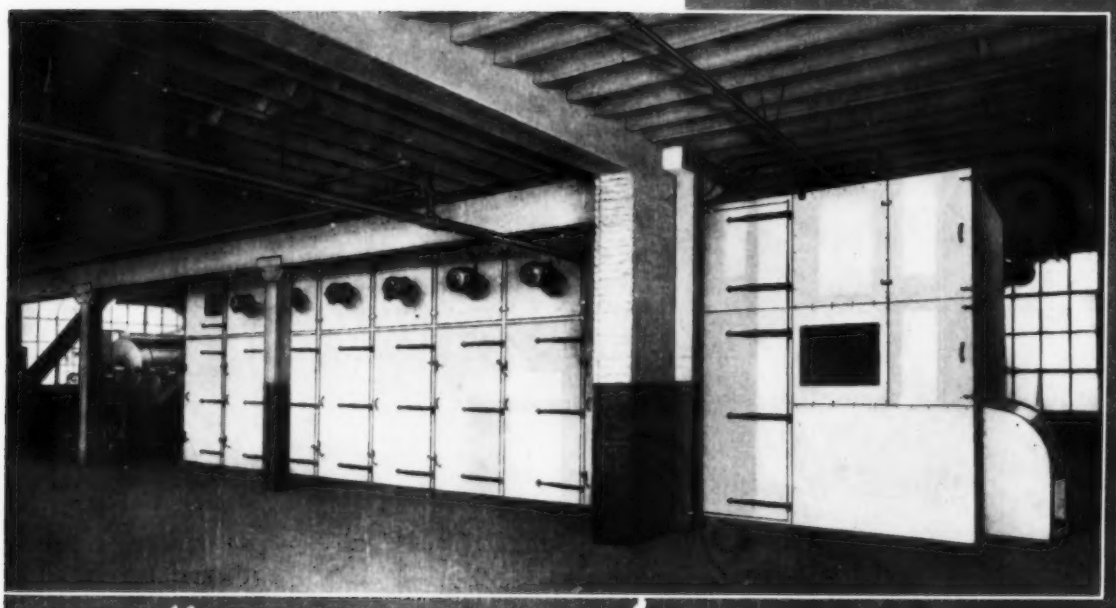
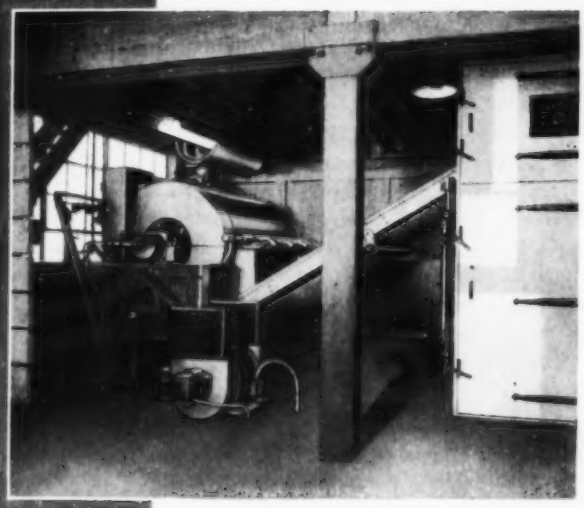
*Manufacturers of electronic inspection and control equipment*

HURLETRON
**PURIFIL**
*Continuous*
**NEPHELOMETER**
(Cloudiness Detector)

# THE *NEW* SOAP CHIP DRYER *by* SARGENT



*Accurate* FEED CONTROL — *Perfect* CHIP THICKNESS CONTROL



## FOR INCREASED PRODUCTION

**SARGENT'S New Soap Chip Dryer** has flexible feed control and accurate chip thickness control—with three variable speed drives, for the rolls, for the feed apron, for the dryer conveyor. It has many other new features all designed to speed production at low operating cost.

The installation illustrated is at Standard Soap Co., Camden, N. J. Production is 2000 lbs. tallow base laundry soap chips per hour, with intake moisture of 34% and leaving moisture of 8%. Harder drying soap averages 1600 lbs. per hour. Chip thickness of 10/1000 to 12/1000 is consistent and even across full width of chilling roll and feed apron conveyor.

*Please write for full particulars.*

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**Graniteville, Massachusetts, U.S.A.**

SINCE 1852

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No doubt about it! Products sell better—*and with less selling effort*—when correctly perfumed.

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They can show you how to mask or denature odors of raw materials. They can show you how to add an acceptable fragrance—or neutral tone—to almost any finished product.

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# PRODUCTION CLINIC

**By E. G. THOMSSEN, Ph.D.**

WATER used for industrial chemical processes and for the generation of steam generally is conditioned by the larger manufacturers. It is our observation that smaller companies overlook the importance of using treated water. Ordinary water and, in some cases, well water is used directly from the tap without any regard for purification. If such practice is followed, finished products of inferior quality, increased costs of manufacture and increased rate of depreciation may result. Often the opinion is expressed that water is not an important ingredient of chemical specialties or that water conditioning requires costly apparatus which is an additional expense to operate. As long as they can get by, certain firms will put up with the production of inferior products made at greater expense with relatively impure water.

Many are of the opinion that city tap water or local well water, clean and pure for drinking and home consumption, requires no further treatment for industrial use. From a chemical manufacturing standpoint, this is not the case. City and well water are neither clean nor pure enough for products in which such properties as glistening clarity are desired, as in liquid soap. A small amount of color or impurity can make the difference between a sparkling clear liquid and a dead, cloudy-looking one. City, surface and well waters always contain small amounts of colloidal slime from reservoirs or iron rust from pipe lines, in addition to the calcium and magnesium salts that cause hardness. Oil is sometimes present either in emulsion or globular form. Seasons of the year and amount of rainfall affect the quality of city water. In autumn water picks up more color and extractives from falling leaves and dying vegetation. If it rains excessively surface water carries silt and impurities into reservoirs. When rainfall is deficient, organic growths such as algae are introduced. The treatment of city water

DR. THOMSSEN

is variable. The amount of chemical added depends upon the condition of the water. The addition of lime, silicate or alum may be necessary to throw out impurities.

In more recent times, wetting agents discharged into water supplies have presented a new treating problem. As the bacterial count of water increases more chlorine must be added.

The cost of equipment and chemicals to condition water is not very great, and is one that can be borne by small plants. Cost factors include the composition of the raw water and the degree of purity desired, which is related to the purpose for which the water is intended. All other factors being equal, the higher the degree of purity, the greater the cost per gallon to treat the water. It is not our purpose to elaborate on the methods of water treatment in great detail. Since many texts are available on this subject, a brief reference to some of the impurities encountered should suffice.

Water conditioning includes the removal of certain impurities, the treatment of boiler water, water softening and the production of distilled water. There are several methods of treatment for purification.

Fluorine, present in certain sections of the country, is usually removed by a porous, highly reactive tricalcium phosphate used in connection with special type filters.

Undesirable alkalinity, usually resulting from borax, is found in some localities. It is corrected by the use of special treating plants and selective ion exchangers.

Iron and manganese salts are not uncommon and are not too easily removed. Chemical treatment with aeration, sedimentation and filtration frees water from iron and manganese.

Taste, odor and color characteristics of water require careful consideration. The cause of their contamination should be studied to determine treatment. Chlorination, removal of free chlorine, chlorophenols, filtration through activated carbon, aeration are some of the procedures used to eliminate undesirable physical characteristics of water.

Reduction in silica content is achieved by chemical treatment, followed by accelerators to soften and clarify the water. Heat treatment is quite common.

The removal of organic impurities again depends upon their nature. Coagulants such as alum, followed by settling or subsequent lime treatment and filtration, are used to clarify the water.

Globular and emulsified oil may be removed by special filters that coagulate and then filter out the impurity.

Stills or deionizers are used to produce distilled water. The use of deionizers results in water that may be used for practically all purposes requiring distilled water. In some cases deionized water is purer than distilled. The deionization process is simple, is being constantly improved, and water treated in this way costs only approximately 1/10th as much as passing water that passes through a water still.

Treating boiler water is similar to conditioning water for industrial purposes. The questionable method of adding proprietary products, varying in composition from cactus juice to pure

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Duraglas globe
Modern metal bracket
No-clog, no-leak metal parts
Spring-control plunger movement

To see those soap sales going up, change only for the better. A "bargain" dispenser may not pay off, but a change to steady-working Peer 100 always pays . . . especially now!

Today, prices are lower on this high-quality dispenser. Peer has proven its dependability for 30 years. Many have been in constant use in busy washrooms for 15 years.

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Satisfy more customers as you up sales and profits in '50—with Peer 100.

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*NAPHTHALENE:* Crude and refined prime white—in chipped, crystal, flake and powdered form.

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soda ash, has been replaced by more reliable procedures. In chemical treatment, compounds made from silicates, alkalies and phosphates are added directly to boilers. Many plants, however, prefer to use chemical feeders and proportioners so that water of uniform composition is fed into boilers. Lime-soda water softeners that feed automatically from 50 gallons up to millions of gallons per day of completely softened water are available. A more general method of producing water of down to zero hardness for boiler feed or other purposes is by the use of "Zeolite" or base exchange softeners. These units are of either open or pressure types. Automatic controls simplify their operation. Manual control is also available for processes in which small quantities of water are fed. When conditioned feed water is used in conjunction with steam purifiers and condensate oil removal filters, very little trouble is encountered in generating clean steam. Frequently, open steam for heating purposes is needed, but contamination from this source should be kept at a minimum.

These remarks give but a sketchy review of some of the methods by which suitable water may be produced for industrial purposes. There is ample choice of methods to treat water cheaply for use in making products requiring it in their processing.

### *Wall Washing Machine*

REX-CLEANWALL CORP., Brazil, Ind., handlers of machines for the sanitary supply industry, is featuring its Cleanwall machine for washing walls without moving any furniture. The machine is said to be economical on both labor and cleaning compounds.

### *Electro-Analyzer*

MUCH of the drudgery, necessary to determine the identity of some chemical solutions quantitatively and qualitatively, is eliminated by the use of the "Electro-Chemograph." Leeds and Northrup, Philadelphia 44, are the source of the instrument which is being used for soaps, petroleum products and pharmaceuticals. A test sample is first analyzed. The data are fixed automatically on a chart. From these data the instrument is used to control quality of similar solutions. Impurities either organic or inorganic as low as one part per million may be determined by its use. The unit operates on the electro-analysis principle whereby steadily increasing voltages applied across the test solution indicate the amperage and voltage at which various substances are liberated. From these determinations the identity and quantity may be determined readily on new samples.

### *Silicates in Soaps and Detergents*

PHILADELPHIA QUARTZ CO., Philadelphia, calls attention to the uses of silicates in its house organ, *P & Q Silicates*, which is issued regularly. Recently, the company has been advertising the dirt-removing properties of soaps and detergents in which silicates are used. Among the advantages claimed for such soaps and detergents are: more and longer lasting suds, better detergency in hard water, excellent defloculating power and prevention of soil redeposition. Such properties would seem to demand further investigation by manufacturers of soaps and detergents as to the possibility of adding silicates to improve their products.

### *Free Solvents Handbook*

A 48-PAGE technical booklet on aromatic industrial solvents is available at no charge through the Barrett Division of Allied Chemical & Dye Corporation, 40 Rector St., New York 6, N. Y. Characteristics, uses, formulas and processes, physical properties and other information regarding solvents like benzol, toluol, xylol and hi-flash solvents are presented in the booklet. Use your business letterhead when you request a free copy.

### *Portable Hand Pump*

SMALL pumping jobs, in most cases, are carried out by hand pumps, which are troublesome and slow. For transferring smaller quantities of liquids from barrels, for cleaning out tanks and pumps and for mixing high viscosity liquids, an electric hand pump has been made available recently by the Meier Electric & Machine Co. of Indianapolis, Ind. A vertically mounted electric motor drives the pump by a direct connection. The pump will deliver 40 g.p.m. of water, is equipped with 15 ft. of approved electric cable and is turned on by a trigger switch fastened to a pistol grip handle. The suction end of the pump is dipped into the liquid and discharges through a "T," to which any length hose or pipe may readily be attached.

### *Laboratory Size Spray Dryer*

A SMALL, portable spray dryer, offered by Niro Corporation, New York, is attracting favorable attention from experimental laboratories. The dryer, made of stainless steel and glass, can provide test results on a large number of products that lend themselves to this method of drying. Its atomizer head revolves at 50,000 R.P.M. and breaks up the liquids into a very fine mist, from which the moisture is flashed off quickly by a current of heated air, thus permitting the dried powder to fall to a hopper at the bottom and from which it may easily be removed. By the use of this portable machine, data may be obtained to indicate results with large spray drying operations.

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### Shriver Filter Bulletins

Two bulletins dealing with its enclosed horizontal plate pressure filter and filter media, and an information folder, "Filter Facts", were issued recently by T. Shriver & Co., Harrison, N. J. Specifications used, design and construction features are shown in the illustrated folder on the pressure filter. Filter media of different types of material are shown in the folder on the firm's cotton, glass, synthetic resin, and metallic filter cloths. Also illustrated and described are various filter papers and wool felt filters.

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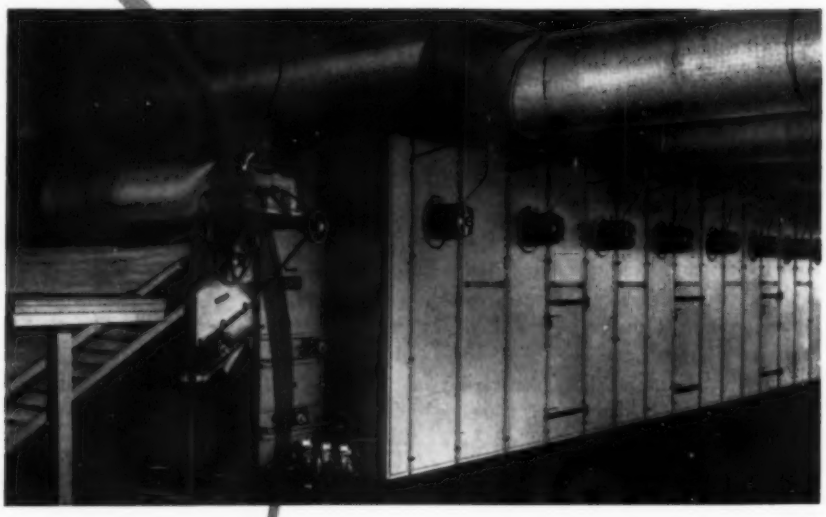
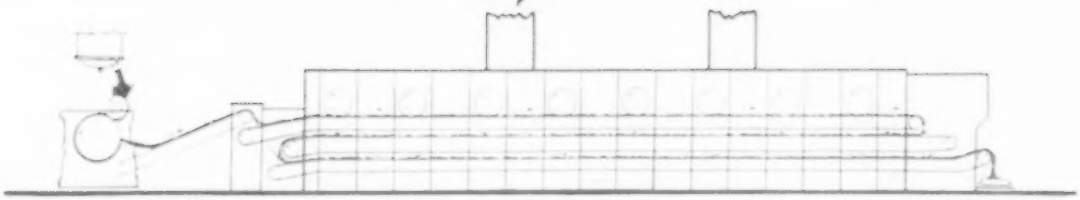
### Bulletin on "Alrolenes"

A semi-technical bulletin dealing with "Alrolene" synthetic detergents was issued recently in question and answer form by Alrose Chemical Co., Providence, R. I. The bulletin bears the title, "Some Frank Questions and Answers about the Alrolenes," and outlines reasons for the effectiveness of these dry cleaning detergents.

# HUMIDITY CAN RAISE CAIN

## in soap drying, too . . .





**REQUIREMENT:** Correct humidity must be maintained within the drying system for the exhaust air to carry away moisture from the soap as quickly as it diffuses to the surface of the ribbons.

**THE PROCTOR ANSWER:** A flexible exhaust system is provided in the design of the drying chambers of the Proctor automatic flake soap system, so that humidity is kept under rigid control. Complementary to this accurate humidity control is proper temperature adjustment in the drying enclosure. Dryer temperatures are carefully adjusted to the points where the necessary water will be removed from the soap without melting it in the early stages or delivering it too hot when completely dried. Temperature in each dryer compartment is automatically controlled by an air operated, recording type temperature control. The temperature control system and the exhaust system which governs humidity, work hand in hand to provide soap that is uniformly dried to a predetermined moisture content. Such control of temperature, humidity and the resultant quality control, is one more reason why the Proctor automatic flake soap system has been so tremendously successful and the choice of the nation's leading soap manufacturers.

Learn how this Proctor automatic "precision engineered" flake soap system may be employed profitably in your plant by writing today for details.

**WORTH THINKING ABOUT**

Let Proctor engineers show you in black and white how the over-all efficiency and completely automatic operation of this system reduce production costs.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

*Proctor & Schwartz, Inc.*

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## Soaps versus Detergents—Snell

(*From Page* 47)

gadget at an elevated price is to the gullible public, not to hard-headed purchasing agents.

### *Snell Rebuttal*

MR. McCutcheon has conceded that soap is less expensive than synthetics. He has spoken of the variety of synthetics available. There is a variety—I agree. There are a few basic industrial soaps, mainly tallow chip with lesser amounts of brown bar and a lot of small uses of others. As to synthetics, it takes a special education—or you have to hire a consultant—to know which to select from the maze of types.

Earlier I spoke of the relative prices of soaps and anion-active synthetics, their real competitors. But when we venture to include nonionics and cationics the situation is even more striking. Neither of them could be bought in carloads under 35c a pound today. I'm washing out theory and talking sheer practicalities.

He mentioned that alkyl-aryl sulfonates are bactericidal. Agreed—our laboratory has published on that subject. But so are soaps. I am sure that many of you are familiar with summaries on that subject published by Dr. E. G. Klarmann from time to time in *Soap and Sanitary Chemicals*.

Price instability of soap engendered by war has been mentioned. Agreed. But I wonder if Mr. McCutcheon tried to buy any synthetics during war time. And what did one get? Soda ash with the active agent put in with a pepper shaker—I didn't even say a salt shaker. They were extended by the manufacturers and again by two successive subsequent hands way over the horizon. I have found commercial so-called synthetics on the market that analyzed less than one per cent active agent.

With substantial markets for both soap and synthetics and competition, a free market will cause one to move with the other just as cottonseed oil moves with soyabean oil.

By no stretch of the imagination do some soaps call on edible fat stocks. Under conditions of stringency they can be made from tall oil, better yet, the recovered fatty acids of tall oil. By a current process they can even be made from hydrogenated recovered fatty acids which will closely compete with tallow.

Again let's be practical. No synthetics are today made from tallow, the preeminent soap fat. They are made largely from coconut oil, secondarily from soft oils. Coconut oil has to be imported. I'm sure Mr. McCutcheon did not intend to imply that all fats can be made into synthetics. He could easily have been misunderstood as meaning that. Actually in fat stocks there is only a moderate overlap although I will be the first to concede that in World War II synthetics robbed soap of coconut oil because of armed services priorities.

In recent years the weight of research has been applied to synthetic detergents, with relatively little on soap. I venture to speculate that a comparable expenditure on uses of soap would expand its uses radically.

The tonnage of industrial products containing synthetics will be large because of things like powdered cleansers containing little more than a trace. But the tonnage of industrial soaps will far surpass the tonnage of industrial synthetics far over the horizon—which means as far into the distance as any of us can see. The criterion is performance per dollar with everything considered.

## Soaps versus Detergents—McCutcheon

(*From Page* 44)

Another very important consideration is the fact that soap is anionic in character, while synthetic detergents may be anionic, nonionic or cationic. There are many cases where an anionic detergent is undesirable. Wool, for example is substantive to anionics so that it is almost impossible to reduce the last traces of soap in a wool scouring operation. Nonionics do not have this property and are widely used for the purpose. Similarly, cationic germicides used widely in the dairy industry, are not compatible with anionics or soap type detergents. Nonionics serve admirably with the cationic detergents to provide double functioning products that are very useful in the dairy industry. Certain of the nonionics have good detergency, combined with low foam power, which make them valuable in washing machines whose mechanical design limits the use of high foaming materials.

The inhibiting action exhibited by certain types of synthetic detergents such as the alkyl aryl sulfates toward gram positive bacteria at low pH values should not be overlooked either. For example, a small residue left on felts used by paper makers after an acid scour, will prevent mould growth; similar residues left on clothes increase their resistance to mildew.

Finally, synthetics have been much more stable in price than soap. In addition, it can be shown that a pound of fat converted to a detergent will do as much cleaning as four pounds of fat converted to soap. This point is an economically important one if fat should ever become an allocated material again.

### *McCutcheon Rebuttal*

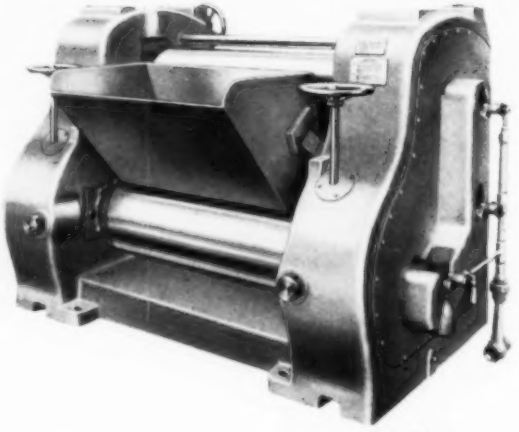
DR. SNELL mentions that in water of 20 grain hardness, soap should not be used. This is true and brings out a point not discussed previously, namely, the waste of soap due to the reaction with the elements of hardness in the water. To make 1000 gallons of an 0.2% soap solution in rain water, requires about 16 pounds of anhydrous soap. If the water has a hardness of 300 PPM as $CaCO_3$ it would require 32 pounds of the same soap to do the job. Where now is the cheap price of soap?

Again, Dr. Snell mentions the defatting action of synthetics on the skin in dishwashing operations. Let me point out that there is very little contact with the hands in industrial applications of this nature where the equipment is automatic.

The data for the efficiency of soap over detergents in the lowering of surface tension, interfacial tension,

(*Turn to Page* 147)

# Now— VERTICAL 3-ROLL SOAP MILLS by LEHMANN



Now, two new and versatile LEHMANN Mills are available admirably suited to the varied requirements of both the small and large producer of toilet soaps. These mills, 813-SA and 913-SA, are specifically designed to reduce costs in batch production and as important complements to other LEHMANN Mills in large scale continuous production. For dependable high production, low maintenance cost and long life LEHMANN precision built machines are unbeatable. Send now for detailed specifications on these two mills.

LEHMANN'S comprehensive list of soap finishing machinery includes a full line of preliminary and finishing plodders, amalgamators in varied types and sizes, and roller mills to suit the most exacting requirements for toilet soap and soap flake production. Ask about them.

**A factory-reconditioning job** on your older mills will step up production and profits. Let the master craftsmen who build LEHMANN Mills restore yours to original efficiency. Please contact our Service Department.

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THE STANDARD FOR QUALITY IN MACHINERY

**Note to West Coast Manufacturers.** We take pleasure in announcing that West Coast users can obtain factory supervised reconditioning and parts, according to the specifications of the manufacturer, at the Moore Dry Dock Company, Oakland 4, Calif.

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**It costs more NOT to Factory-recondition**

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*Now...*

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**NYA'S DEODORIZING OILS, specially designed to cover the unpleasant odors of Flysprays, Moth Sprays and Crystals, Para Blocks, and the various Cleaners and Insecticides used in pest control. They may also be used with good results in Aerosol Bombs. These Deodorizing Oils are inexpensive, have good covering power, and lasting effectiveness. We would like you to try our newly developed, inexpensive**

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**which is strong, very flowery, and highly effective. Other odor types available, such as Lavender, Rose, Pine, etc.**

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## NEW YORK AROMATICS CORP.

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# PRODUCTS AND PROCESSES

## Bubble Soap Composition

A composition suitable as a bubble soap may be prepared by incorporating 2.5 per cent of sodium carboxymethylcellulose (containing at least .55 carboxymethyl groups per anhydro/glucose unit) in a six per cent detergent solution. A typical example is as follows: five per cent active detergent (sodium alkyl sulfate or sodium alkyl aryl sulfonate), four per cent crude sodium carboxymethylcellulose, of 47 per cent active sodium CMC, seven per cent sodium carbonate (26 per cent of a mixture of sodium glycollate and sodium chloride, and 20 per cent water), 91 per cent water. *Manuf. Chem. 20*, No. 11, 529, (1949).

## Divisible Soap Bar

A bar of soap which may be readily broken in two is made by perforating the bar to a substantial depth with a plurality of perforations aligned across the smaller dimensions of the face of the bar, and about midway of its length. The bar is then stamped in final form with sufficient pressure to collapse the perforations effectively. J. E. Egan, to Procter & Gamble Co. of Canada, Ltd. Canadian Patent No. 460,307.

## Pine Oil Polish

A cleaning and polishing composition with a petroleum solvent base consists of one gallon petroleum, two pounds of precipitated chalk, two to four ounces of methyl alcohol, two ounces of pine oil, two to four ounces of ammonia, four ounces of soap flakes and one pound of water. The composition is applied with a dry cloth, allowed to dry and polished. Can. Patent 455,802.

## Non-mineral Toothpaste

"Lamepon 4C," an albumin-fatty-acid condensate, in combination with antiseptics, essential oils, flavoring materials, glycerol and water gives a stable, clear emulsion. Swiss Patent 217,628 through *Chem. Abs.*

## Vacuum Dried Soap Powder

An Australian patent is pending for a soap powder made by spraying a 10 per cent liquid soap into a high vacuum chamber maintained at suitable temperature conditions; the dried product is agitated by a rotary agitator, and a low pressure maintained in the collection passage. *Manuf. Chem. 20*, No. 11, 574 (1949).

## Carnauba Substitute

A new industrial wax with properties similar to carnauba is obtained from the pulp of sisal, a fibre cultivated extensively in Mexico. It has a melting point of 85°C. and is almost colorless when refined. The wax was developed by the Armour Research Foundation, Chicago. *Manuf. Chem. 20*, No. 12, 627, (1949).

## Brushless Shaving Cream

Brushless shaving creams usually have a vanishing cream base, often with the addition of mineral oil, glycerine, and a trace of lanolin. Glycols, sorbitol, and sodium alginate may also be present. While a vanishing cream may be saponified to the extent of about 20 per cent, this should be increased to 33-40 per cent with a brushless shaving cream. A vanishing cream containing an additional 20 per cent of a good potash or triethanolamine soap may serve the purpose. The following is a typical formula:

| | *Parts* |
|---|---|
| Stearic acid | 18 |
| Lanolin | 3 |
| Mineral oil | 3 |
| Glycerine | 5 |
| Triethanolamine | 2 |
| Borax | 2 |
| Water to make | 100 |

The latest development is the two-way shaving cream. If the user has time, he may make a lather with it by using water, or if he is in a hurry, he may use it as an ordinary brushless cream. The above formula is a useful cream of this type. If the stearic acid is increased, it becomes a more definite brushless type; if the soap content is increased, a highly saponified shaving cream results. H. Janowitc, *Soap, Perfumery, Cosmetics 22*, 1131-2 (1949).

## Shaving Cream

Brushless shaving creams are prepared by pouring a five to one stearic acid-vaseline mixture into a mixture of triethanolamine, water and borax (1:94:1); stirring the mixture and cooling. A five to one ratio of caustic potash to caustic soda in the presence of three to five per cent free fatty acid produces good plasticity. Low percentages of petrolatum or petroleum jelly are preferred for superfatting creams. Dr. Ruemele, *Alchimist* through *Soap (India) 2*, 9-11 (1949).

## Bicarbonate in Soap

Bicarbonate and carbonate in the presence of soap and synthetic detergents are determined directly, thus avoiding loss of bicarbonate due to solubility in alcohol or in virtue of its inherent instability. Carbon dioxide liberated on heating the sample is determined gravimetrically and calculated to sodium bicarbonate. The residual carbonate is decomposed by acid, the carbon dioxide liberated by heating, determined gravimetrically and calculated to sodium carbonate. R. Kelly and E. Black, *J. Amer. Oil Chem. Soc.* 26, No. 12, 685-687 (1949).

## Detergent Paste

Eight to 10 parts of castor oil, 40 parts light aromatic solvents (as benzene, turpentine oil, five to eight per cent cyclohexanol), 50 parts of powdered sodium carbonate and two parts of water will produce a detergent paste. Heavier solvents than those mentioned may be used, but their content should not exceed 15 per cent and the sodium carbonate content should be increased to corerspond. Ital. Patent 431,953 through *Chemical Abstracts.*

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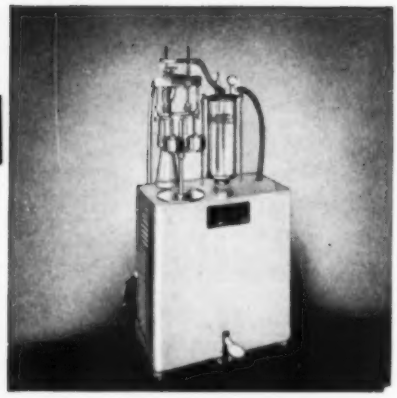

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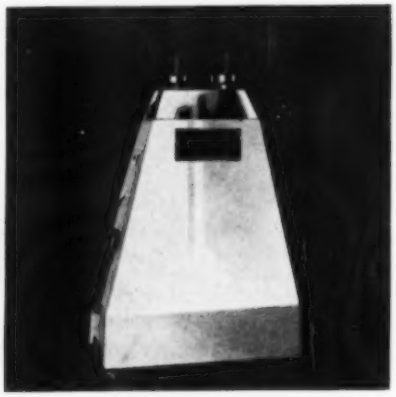

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# SOAP PLANT OBSERVER

**By John W. McCutcheon**

THE various phases of technical control in a soap plant have been under discussion in this column during the past few months. Typical examples have been given showing the preparation of specifications for raw materials, process control tests, analytical procedure and process instructions. Even if all these steps are followed in a soap plant, either in a limited or extensive way, depending on the quality and type of product being manufactured, they are still meaningless unless integrated to produce the unified results of quality and economic control. The cost accountant must not only be given the proper figures with which to work, in addition, they must be of the accuracy desired for his end use. For example, in a glycerine plant producing a half million pounds of crude a month, it was found that the inventory amounted to anywhere between 150,000 and 300,000 pounds depending principally on the finished stock on hand. Now on 200,000 pounds of five per cent glycerine lye stored in vertical, 15 foot diameter tanks, the variation of an inch or two in measurement will mean at best a few hundred pounds of crude. The same type of measurement on a crude settling tank of similar dimensions, however, can mean an error of several thousand pounds of glycerine. Generally speaking, errors of carelessness have the habit of being cumulative. Like putting money in the bank—it goes in hard and comes out easy. You really get nowhere until you sit down with the accountant and study his results. A persistent loss in evaporation may be due to incorrect tank measurements, to the use of measurements requiring a positive scale weight, or to a faulty system of sampling.

In one case the analytical laboratory was the proverbial monkey-wrench thrower. The laboratory analyzed the crude with meticulous care,

but tossed the lye analyses through on a taste test.

In another case glycerine loss in soap boiling persistently evaded detection until it was discovered that an early morning janitor was running off a bit of lye now and then to wash down the floors. Very peculiar things can and do happen sometimes.

Another loss of a different character involved the decomposition of the glycerine in the lye tanks due to lack of periodic washing down and disinfecting. Many of these losses would never have been pinned down at all except through accurate accounting which, in turn, is related to all phases of process control described previously. It is a cooperative effort. The production man should be quick to recheck the calibration of tanks, to train his men in prompt reporting and to stand ready to advise the accountant on all factors of accuracy. The accountant should in turn not only be ready to point out losses quickly as they occur but should stand ready with pencil in hand to offer additional breakdown data to aid the search. The writer has found by experience that this type of control is greatly superior to the police policy of supervision so frequently used. It costs less in the long run, improves the morale of the operators and opens the door to short cuts in plant economy.

* * *

SYNTHETIC detergents probably are chiefly responsible for the interest displayed in CMC in recent years. Besides its use as a soil suspending agent, a recent British report shows it to be useful also in preparing non ionic detergents in flake, powder and bar form. Stabilization of foam is best obtained however by the use of such materials as methyl ethyl cellulose, etc. This confirms the writer's own findings. Canadian facilities for production of CMC are now well underway.

* * *

CONSIDERABLE interest has been aroused in recent weeks over the "No Rinse" advertising of several leading brands of all purpose synthetic detergents. The principal claims made parallel one another and briefly establish the point that clean clothes may be obtained without the common wash-day practice of rinsing. Is this a new discovery? Is it the application of a new twist to an old idea? or is it just plain advertising ballyhoo? First of all, the question arises: Why has rinsing been considered necessary all these years? When soap is the detergent and traces are left on the cloth, the acids in perspiration, or even the ordinary humidity of the air may split off fat and cause rancidity, discoloration and skin irritation. In addition, soaps scorch in the ironing operation and grey the wash. In fact the presence of lime soaps formed in rinsing out the soap with hard water is one of the chief drawbacks to the use of soap at all. So much so in fact, that commercial laundries soften their own water. The accumulation of these lime soaps is the so-called "tattle-tale gray." Synthetic detergents do not form such insoluble precipitates and are rinsed free in the hardest water. This has been to date the advantage of synthetics over soap in household laundry

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work. Now the question arises, could traces of synthetic detergents be left in the cloth without harmful effect? The textile industry thinks so, and has been doing it to some degree for years, in finishing operations, to impart a certain amount of softness to wool, or to reduce rinsing operations within the processes. The specifications of such a product include good stability of the active detergent under mild acid and ironing conditions, good dirt suspending power, mild alkalinity and non toxic properties. These conditions are not difficult to attain when it is considered that probably less than 0.01 per cent of the detergent remains on the cloth after the wringing operation. One company met these specifications on a new product, and another found that their present product fitted the bill precisely. Thus a new idea was born, which the writer believes has some merit. It does save fuel and water, it does save labor and does clean to a point where clothes washed both ways are indistinguishable to the naked eye.

The fact remains however, that all the water cannot be removed by wringing and hence there will be some soil left in the cloth. For example, if eight pounds of clothes are washed in six gallons of water and wrung to a wet weight of 12 pounds, then four pounds of water or eight per cent of the original soil still remains in the clothes. If 10 gallons of water were used, then five per cent of the soil would be left. Is this good or bad? That question can only be answered by the housewife herself, but at least she should be informed that it is there! How about using four gallons of water on the wash and two gallons for just one teeny weeny rinse? On the same basis of reasoning employed above, this would leave only three per cent soil behind or be more than twice as good as a no rinse job with the same amount of water. There would be some saving on fuel, too. It is one thing however, to say to a housewife do this and that and quite another to just say "No rinse." That phrase has impact. It is easy to understand. The plan being developed does have merit and this column will watch future developments to see how far it will go.

* * *

SMALL soap manufacturers who produce cold made bar soaps, etc., might profit conceivably from the use of asphalt lined board for their cartons. Unquestionably such material guards against drying out, warping and discoloration. Gardner Board & Carton Co., Middletown, O. has available such board at a price not greatly in excess of regular board. It is called "K-B" and is patent coated. The full value of such board is only obtained by end-sealing which may involve some modification of packaging equipment.

### New Jones Cartoner

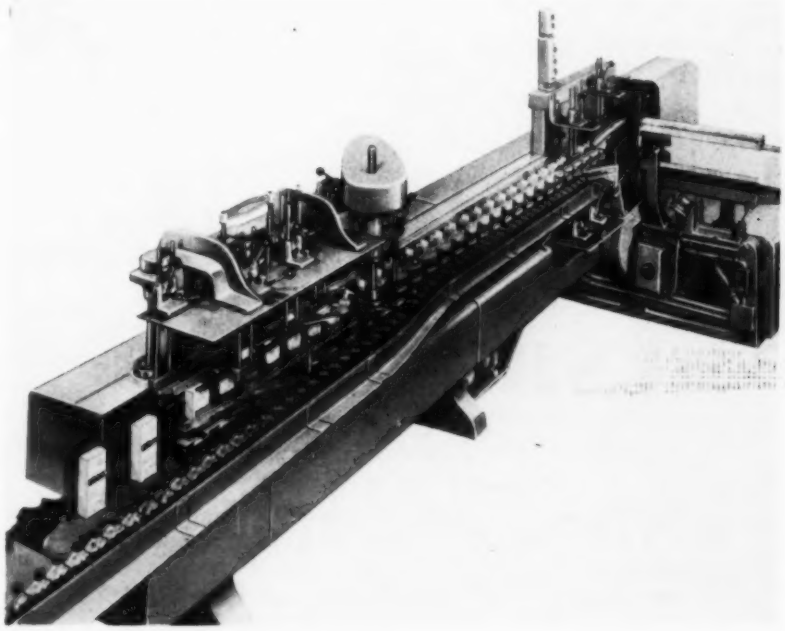
R. A. Jones & Co., Cincinnati, have just announced the development of a new semi-automatic cartoner—the Jones CMV—that is designed to handle a wide range of carton sizes. A fully adjustable machine, it can be adapted quickly to handle cartons ranging in sizes from ½x¾x2½ inches to a maximum of 3¼x3¼x8 inches. In operation, the machine feeds a folding carton from a magazine, opens it and tucks in the bottom flaps. Held securely by the transport lugs and guide rails, the cartons are carried upright along the loading stations. A maximum of three operators can be used to insert the load in the open, top end of the carton, after which the top flaps are tucked in and the finished package discharged for subsequent handling. Machine speed can be changed quickly throughout a range of 25 to 120 cartons per minute. One operator can insert bottles, tubes or similar products at the rate of 100 per minute. When corrugated liners, leaflets or other inserts are used, space is available for additional operators. A descriptive folder is available.

### Water Treating Booklet

A booklet describing its system of complete boiler water treatment was announced recently by E. F. Drew & Co., New York. The booklet describes the methods required to insure complete water treatment and includes photographic illustrations of each step in the process. Both chemical and organic treatment are covered.

### New Schimmel Price Lists

Price lists on its lines of essential oils, aromatic chemicals, and related materials, and another on its perfume specialties were issued recently by Schimmel & Co., New York. Price List "A" deals with the perfume specialties, while price list "X" covers essential oils, aromatic chemicals, and related materials.



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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 50c for each copy desired to Lancaster, Allwine & Rommel.

**No. 2,485,744, Treatment of Tall Oil and Portions Thereof,** patented Oct. 25, 1949 by Samuel Koonce and Edmond S. Perry, Rochester, N. Y., assignors to Distillation Products, Inc., Rochester, N. Y., a corporation of Delaware. The process is described which comprises in combination esterifying the fatty acids of tall oil with a monohydroxy aliphatic alcohol without substantially esterifying the rosin acids of said oil, dissolving the mixture of esterified fatty acids and unesterified rosin acids in a solvent therefor, removing rosin acids by contacting said mixture with an adsorbent effective to adsorb substantially all of the unesterified rosin acids from said mixture without substantially adsorbing esterified fatty acids therefrom, and thereafter washing said adsorbent with a strong eluting solvent effective to remove adsorbed rosin acids therefrom.

**No. 2,485,330, Fungicidal Compositions,** patented Oct. 18, 1949 by William D. Stewart and John H. Standen, Yonkers, N. Y., assignors to The B. F. Goodrich Company, New York, a corporation of New York. A method is described of protecting materials which are capable of nourishing fungi from destruction by fungi which comprises bringing the material into contact with a thiothiazyl ether having the formula

$$R—S—C_nH_{2n}—O—C_nH_{2n}—X$$

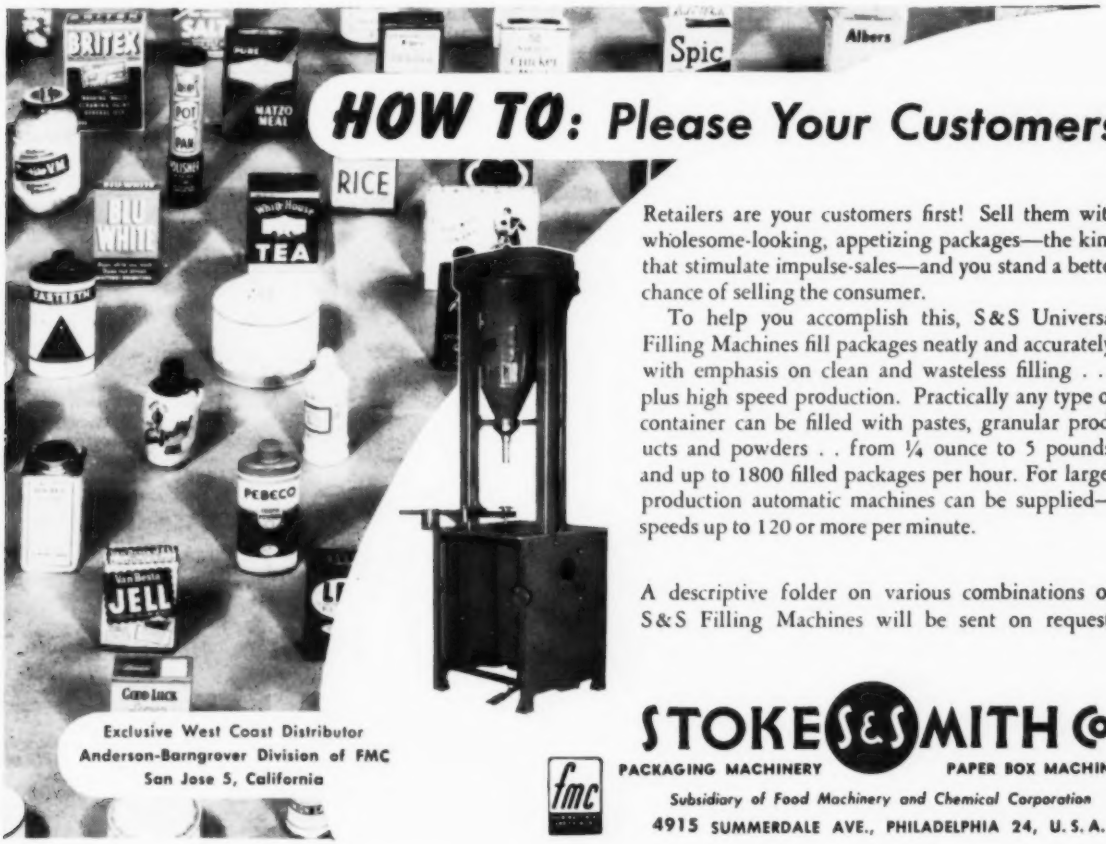
where R is a thiazyl radical, X is a halogen and $n$ is an integer from 2 to 4.

**No. 2,484,295, N-substituted Oxyacetamide Compounds and Insect Control Compositions,** patented Oct. 11, 1949 by Lowell B. Kilgore, Washington, D. C., assignor, by mesne assignments, to Lowell B. Kilgore and Helen Ford Kilgore, both of Washington, D. C. The patent covers the N-substituted α-etherified acetamides having the general formula:

$$R—O—CH_2CO—NHR'$$

wherein R is aralkyl and R' is an aliphatic hydrocarbon radical.

**No. 2,485,779, Selective Enzyme Hydrolysis,** patented Oct. 25, 1949 by Judson H. Sanders, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio. The process of liberating and separating substantial proportions of the lower molecular weight fatty acids from a mixture of glycerides having fatty radicals within the range $C_{12}$ to $C_{24}$ and including some which contain at least 6 more carbon atoms per radical than others is covered, which comprises subjecting said mixtures of glycerides, at a temperature between about 40° F. and about 140° F. and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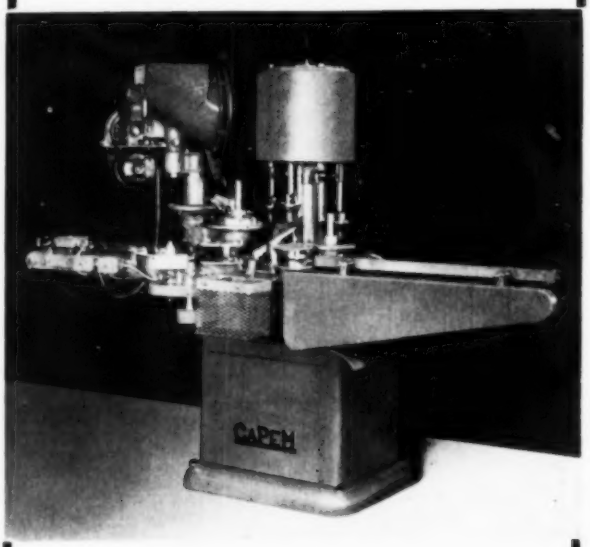


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above that at which substantial amounts of solid fats separate from the oil, to the action of an active lipase of the group consisting of oil seed lipases and steapsin, in the presence of an aqueous phase until said lower molecular weight fatty acids have been liberated to a substantial extent as a result of preferential enzyme hydrolysis, and until the free fatty acid content of the oil has increased at least about 10 percent and not substantially above the percentage content of lower molecular weight combined fatty acids in the original oil, then removing the partially hydrolyzed oil from the influence of active lipase and separating said free fatty acids from a residual mixture of glycerides of fatty acids having on the average longer carbon chains than those of the liberated fatty acids, and at any time following the partial hydrolysis substantially separating the aqueous glycerin phase from the oil phase.

**No. 2,483,797, Tall Oil Acid Composition,** patented Oct. 4, 1949 by Edward A. Van Valkenburgh, Greene, N. Y. The patent describes a tall oil acid composition containing from about 10 to 90% of the aliphatic amine soaps of tall oil acids and from about 90 to 10% of free tall oil acids, said composition being free from uncombined amine.

**No. 2,483,710, Apparatus for Bleaching Fatty Substances,** patented Oct. 4, 1949 by Adrian A. Robinson, Indianapolis, Ind., assignor, by mesne assignments, to Standard Brands Incorporated, New York, N. Y., a corporation of Delaware. The patent describes apparatus for accomplishing bleaching of a flowable oleaginous material comprising a source of supply of such material, a source of supply of a bleaching agent, and converging conduit means for establishing a flowing stream composed of a mixture of such material with such bleaching agent, means for subjecting a section of said stream to subatmospheric pressure substantially at atmospheric temperature, whereby occluded air therein will be extracted therefrom, and means for subjecting a section of the stream beyond said first-named section of said air-freed mixture to heat sufficient to result in bleaching of the oleaginous material.

**No. 2,485,554, Cleaning Composition,** patented Oct. 25, 1949 by Rubin Bernstein, Philadelphia, Pa. A solvent-emulsion cleaner is described consisting essentially of a substantially homogeneous mixture of the following proportions by weight: between about 9.5 and 10.5 percent tall oil, between about 13.0 and 14.5 percent pine oil, between about 1.5 and 2.0 percent potassium carbonate, between about 0.5 and 1.1 percent sodium chromate, between 5.0 and 20.0 percent water, and a balance of kerosene to make 100 percent.

**No. 2,485,339, Aqueous Fungicidal Dispersions of Salicylanilide,** patented Oct. 18, 1949 by Willem van Eijk, Amsterdam, Netherlands, assignor to Nederlandsche Centrale Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek, The Hague, Netherlands. The patent describes a method of preparing an aqueous fungicidal dispersion containing salicylanilide in very finely dispersed form, which comprises melting salicylanilide with an emulsifying agent that lowers the melting point of the salicylanilide to obtain a molten composition miscible with water in liquid phase, and then thoroughly dispersing said composition in molten state in an aqueous liquid medium at a temperature below the melting point of salicylanilide.

**No. 2,483,413, Process of Bleaching Fats and Oils,** patented Oct. 4, 1949 by Lloyd F. Henderson, Reading, and Louis H. Libby, Boston, Mass., assignors to Lever Brothers Company, Cambridge, Mass., a corporation of Maine. The patent describes a process of bleaching dark oil and fat stocks, which comprises treating said stock

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in the presence of a phosphoric compound selected from the group consisting of phosphoric acids and acid phosphates, and a compound liberating nascent oxygen in the presence of the said acidic compound under the treating conditions, said phosphoric compound imparting those acidic conditions under which said oxygen liberating compound acts to achieve a pronounced lightening of the color of said stock, and then treating the stock with a bleaching earth.

## Soap Sales...

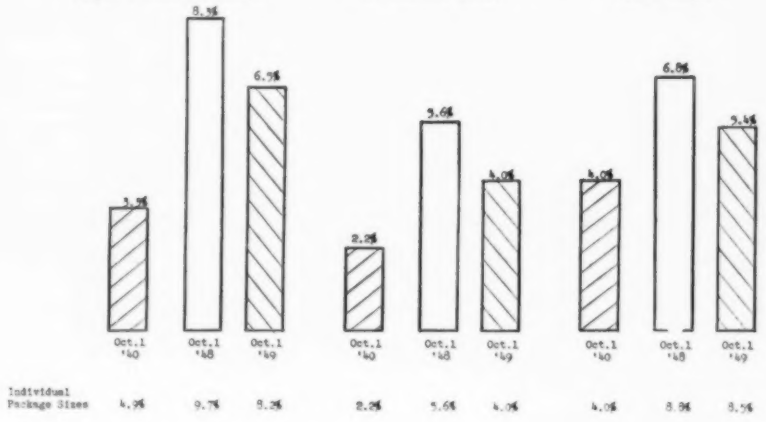
(*From Page 51*)

the number of stores that were temporarily out of stock compared with prewar. A comparison of current figures with those for last year and prewar is shown in Table 5.

If we take the major brands of package laundry soaps, we find that the average out-of-stock for these brands was 3.3% of stores handling on October 1, 1940. It was at a high level on October 1, 1948—8.3% of stores handling—but nowhere near the 1946 and 1947 showings and dropped somewhat to 6.5% on October 1, 1949—about twice the level shown for prewar. Similar showings are reported for bar laundry soaps with a 4% out-of-stock for the major brands currently as compared with 2.2% prewar, while toilet soaps show a smaller increase in out-of-stock at 5.4% on October 1, 1949 as compared with 4.0% prewar. The better showing for toilet soaps undoubtedly reflects the addition of bath sizes to the line, thus reducing the chances that a store will be out of stock. If we look at individual sizes, taking in the case of toilet soaps the regular size, we find that average out-of-stock has doubled for toilet soaps, paralleling the picture shown for individual sizes of bar laundry soaps and package laundry soaps.

It is interesting to note that out-of-stock showings improved between 1948 and 1949 even though retail stocks were reduced. Evidently a better job is being done by the stores or by soap manufacturers in maintaining stocks. These figures on out-of-stock are important from the standpoint of the soap maker because they represent lost opportunities to make a

Table 5. Out-of-Stock Average of Major Brands




sale of his brand, or of a particular size of his brand.

Housewives were asked, "What do you do when a store is out of stock on the brand you request?" Of the women interviewed, 48% said they took another brand, 20% said they did not buy, and 32% stated that they went elsewhere to get the brand they preferred. If these figures are typical of a consumer's actions today, it means that a sale of your brand is lost probably in half the cases where a store is out of stock.

### Mrs. John Riccardi is Dead

Mrs. John Riccardi, wife of the president of Roman Cleanser Co., Detroit, died there recently at her home. A native of Italy, she lived in Detroit more than 30 years, and returned recently from an extended trip to her native country. Besides her husband, a daughter and two sons survive her.

### E. W. Ogle of C-P-P Dies

Edward W. Ogle, 53, of the export department of Colgate-Palmolive-Peet Co., Jersey City, N. J., recently died suddenly at his home in Deal, N. J. He was a veteran of World War I and held the Distinguished Service Cross, won in the Battle of Meuse-Argonne, France. He is survived by his wife, two daughters and a sister.

New Giant Size "Tide" Package Holds 49 Ounces—Retails for 69c.

# SANITARY PRODUCTS SECTION

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

# KRANICH SOAPS

**Kranich standard soaps are manufactured and produced entirely in our own factory. All soaps are manufactured from fatty acids distilled and vegetable oils refined by us. All alkalies are dissolved and settled to remove impurities. All soaps are HEAVY METAL free (new technique).**

**29 years in business as one of America's leading manufacturers of soaps ONLY is a testimonial to the standard quality of our products.**

## MAINTENANCE SOAPS

Liquid Toilet
40%, 30%, 20% Coconut Oil

Potash Vegetable Oil
Soft 40%, Hard 65%, Scrub 20%

Powdered Coconut Oil 98%
(For Detergent Compounding)

## Kranich Soap Company, Inc.

54 Richards Street Brooklyn 31, N. Y.

# KRANICH SOAPS

"don't they know..."

"WHEN IT SMELLS BETTER—IT WILL SELL BETTER!"

. . . and that applies to your products, whether they be

INSECT SPRAYS, of any type
AEROSOLS
PARA and NAPHTHA BLOCKS
FORMALDEHYDE SPRAYS
THEATRE SPRAYS
DRIP FLUIDS

and any other Sanitary Products

Felton chemists, with a wealth of research and experience in Industrial Aromatics and Deodorizing Agents, can supply you with the perfect reodorants or neutralizers for your products. All you have to do is *send us a sample of what you make*—so that we can make careful, individualized study of your requirements.

AROMATIC CHEMICALS • DEODORIZING CHEMICALS • PERFUME OILS • ESSENTIAL OILS

FELTON CHEMICAL COMPANY, INC.
599 Johnson Ave., Brooklyn 6, N. Y.

BRANCHES IN • BOSTON • PHILADELPHIA • LOS ANGELES
ST. LOUIS • DALLAS • CHICAGO • MONTREAL • TORONTO

# for the effective control of roaches, waterbugs, ants, silverfish, carpetbeetles

& CERTAIN OTHER HOUSEHOLD PESTS

# CHLORDANE

"Velsicol 1068"

"VELSICOL"

"VELSICOL 1068 CHLORDANE" insures a product that is *consistent in performance, has a high initial kill, and good residual protection.*

Control of persistent crawling insect pests – such as roaches, ants, waterbugs, silverfish and carpet beetles – depends upon the use of an insect toxicant capable of providing this type of overall action.

When you formulate with "VELSICOL 1068 CHLORDANE", you formulate with confidence.

**VELSICOL CORPORATION**

330 EAST GRAND AVE., CHICAGO, ILL. • REPRESENTATIVES IN PRINCIPAL CITIES

When you want the BEST go to the BEST

# And for Packaging it's GLASS

Nothing is more important in the packaging of your products than the protection of their purity, strength and other qualities. Inert, the glass package does not change your products. It will not leak, rust nor absorb moisture. Easy to open, easy to use, easy to reseal, it makes the most convenient package. The glass package may be transparent or not as required. It lends itself to individuality in size and shape hence is adaptable to any product. Preferred by consumers because it is safe, sanitary and convenient . . . by retailers because of its sales and merchandising advantages.

Anchor Hocking Glass Corporation, Lancaster, Ohio.

## Anchorglass*

### WIDE MOUTH ROUNDS

If you package dry drugs or chemicals—powders, crystals, capsules, pills, tablets—semi-solids or heavy liquids—you'll find standard *Anchorglass* Wide Mouth Rounds ideal, economical containers that give high level performance in your packaging operations. *Anchorglass* containers are the end result of practically engineered designs. Consistency in manufacture, uniform distribution of glass, accurate and careful annealing, strict quality control from selection of raw materials to finished container—result in uniformly strong, durable bottles. Wide Mouth Rounds are available in 25 sizes, with capacities from 10 cc. to 4000 cc., in crystal or amber glass.

## ANCHOR*

### C. T. CAPS

*Anchor* C. T. Caps give economical, dependable, leakproof sealing. They are adaptable for use on a wide range of products which require airtight and liquid-tight sealing. Their scientifically designed deep rolled thread improves holding qualities; permits ample clearance over the glass thread; prevents binding and gives spin-on action which results in fast, low-cost application. Deep, coarse knurls avoid interference with the top of the glass thread and permit free radial movement of the liner and provide a firmer gripping surface for application and removal. Housewives like the *Anchor* C. T. Cap because it's so easy to remove and replace and because it protects contents until entirely used. May we submit containers and closures for test purposes?

*Reg. U. S. Pat. Off.

## For the BEST in Glass Packaging *it's*

# ANCHOR HOCKING

PACK IN "Anchorglass"... SEAL WITH "Anchor Caps"

# nobody loves the fly spray with B. i. O.*

Pity the poor fly spray that offends with *Basic Ingredient Odor! The housewife eschews it, the purchasing agent passes it by in favor of the insecticide with a refreshing, *pleasing* fragrance. To impart just such a pleasant, sales-appealing scent is the sole and *exclusive* purpose of MM&R DEODOR-SCENTS. This large family of powerful neutralizer-perfumes has proved its extraordinary efficiency and economy to exacting manufacturers the country over. Whether you wish to neutralize *without* perfuming . . . or to do *both* with one product . . . there's an MM&R DEODOR-SCENT that will supply the perfect answer to your needs. For quick proof, send us your unperfumed spray and an indication of your perfuming budget. Deodor-scented samples will be returned promptly without obligation.

***It's not a Deodor-Scent if it's not labeled MM&R***

**Some of the Most Widely-Used**
**MM&R DEODOR-SCENTS**

- **Perfume Oil B.L.S. MM&R** — Delicate Lilac Character
- **Perfume Oil Bouquet**
- **Sweetgrass MM&R** — Odor of New Mown Hay
- **Perfume Oil Fruit Berry MM&R** — Light, Berry-Like Scent
- **Perfume Oil Vanilla MM&R**
- **Deodorant L44 MM&R**
- **Neutralizer No. 801 MM&R**
- **Neutralizer No. 202 MM&R**

**MAGNUS, MABEE & REYNARD, INC.**

SINCE 1893 . . . ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS

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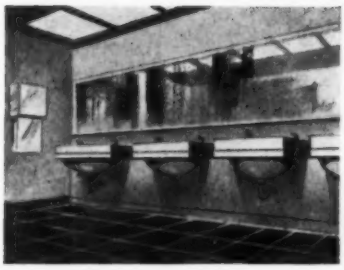
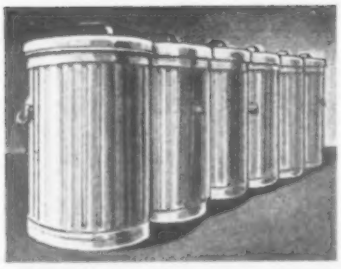
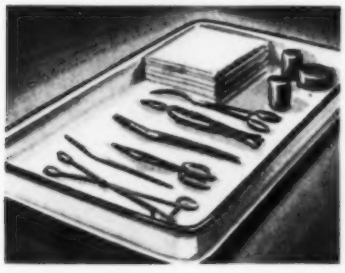
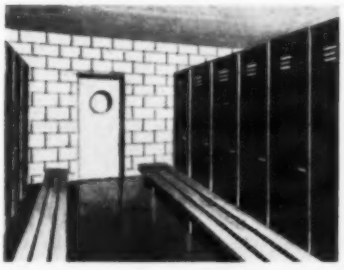
LOS ANGELES: BRAUN CORP. • SEATTLE, PORTLAND, SPOKANE: VAN WATERS AND ROGERS, INC. • SAN FRANCISCO: BRAUN-KNECHT-HEIMANN CO.









# SANTOPHEN 1

## an effective germicide that's easy to formulate, safe to use

Formulators, who want to sell a highly efficient germicide and fungicide that is easy to formulate and safe to use, can build a high-profit, repeat-business product with Santophen 1.

Santophen 1, Monsanto's ortho-Benzyl-para-chlorophenol, offers the following important qualities:

1. It is a single, stable compound with purity above 98%.
2. It is a potent bactericide, having phenol coefficients in the order of 150 to 200 against standard test organisms.
3. It is highly toxic to fungi, killing in concentrations of .002%.
4. It has low toxicity to higher animals. Formulated in usage strength, it shows no indication toward skin irritation or sensitization.
5. It is easy to handle, light in color, non-staining in solutions, with faint, non-persistent odor.

Properly formulated, Santophen 1 is efficient in many applications, including: Sanitizing rest rooms; disinfecting floors, walls and equipment in hospitals; deodorizing garbage cans; disinfecting surgical instruments; disinfecting poultry and livestock shelters; treating locker-room floors and around swimming pools to control athlete's foot.

Santophen 1 offers formulators many opportunities to improve products, sales and profits. Look into Santophen 1 today. Mail the coupon or contact the nearest Monsanto Sales Office for your copy of Monsanto Technical Bulletin O-51, "Santophen 1 for Use in Disinfectants." MONSANTO CHEMICAL COMPANY, Desk B, Organic Chemicals Division, 1778 South Second Street, St. Louis 4, Missouri.

*Santophen: Reg. U. S. Pat. Off.*

MONSANTO
CHEMICALS FOR PLASTICS

MONSANTO CHEMICAL COMPANY
Desk B, Organic Chemicals Division
1778 South Second Street, St. Louis 4, Missouri

Please send, without cost or obligation, Monsanto Technical Bulletin No. O-51, "Santophen 1 for Use in Disinfectants."

*Name*.....*Title*.....

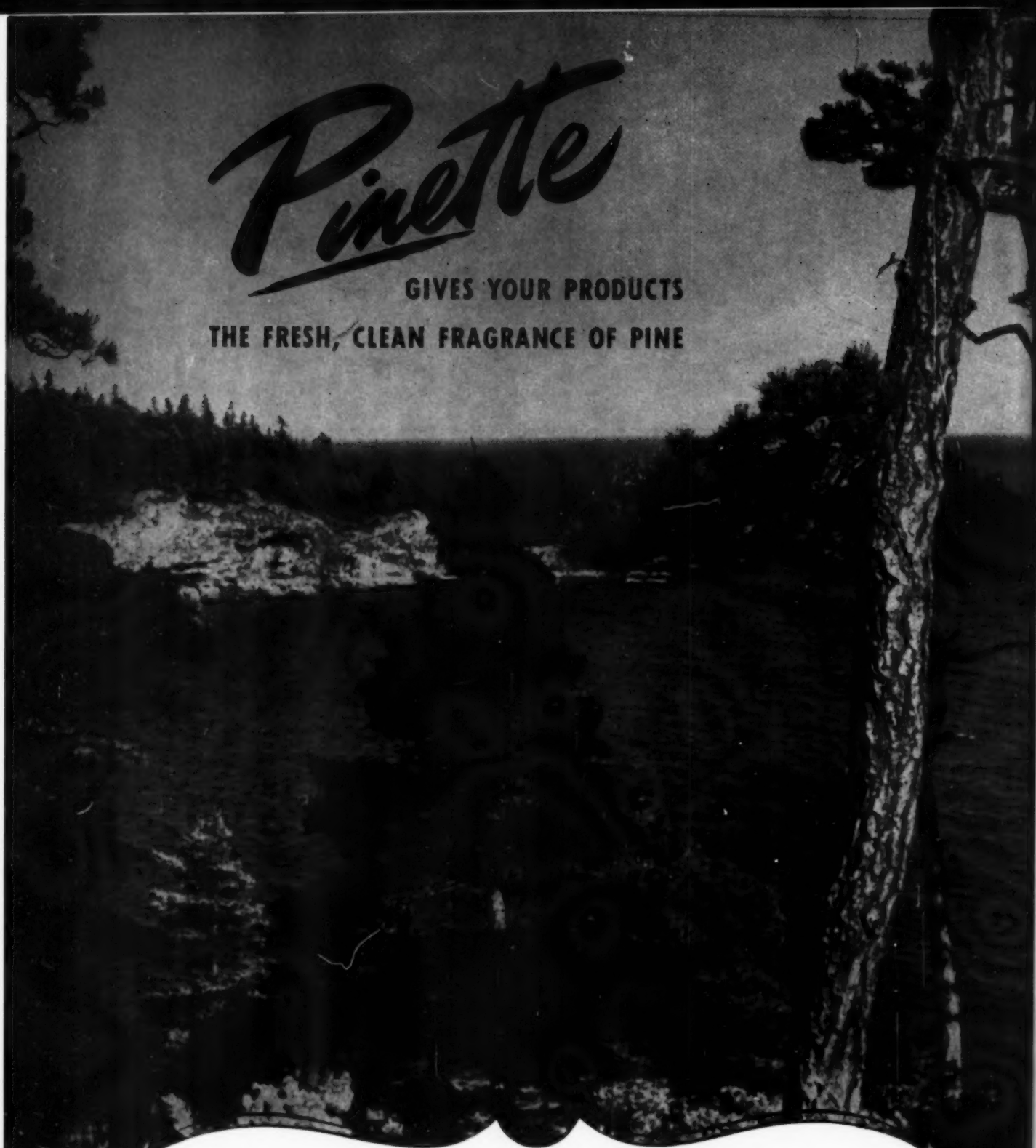
*Company*.....

*Street*.....

*City*.....*Zone*.....*State*.....

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

SERVING INDUSTRY . . . WHICH SERVES MANKIND




Pinette—the latest development of our Research Laboratories—is all you could look for in a pine fragrance. Its exhilarating balsamic odor combines with a light top bouquet fragrance to give your shampoos, soaps, bath oils, and bath salts the cool, pungent fragrance that is so popular in products of this type. Pinette's long-lasting qualities also make it an excellent oil for use in Incense. We'll be glad to send you samples. Just write to:

**Aromatic Products, Inc.**

**15 East 30th Street, New York 16, N. Y.**

ATLANTA • CHICAGO • DALLAS • PITTSBURGH • MEMPHIS • SAN FRANCISCO • LOS ANGELES

## Available in Quantity

## For Immediate Shipment

# Paradow

*(p-Dichlorobenzene)*

PACKED IN 25
50
100
200
POUND DRUMS

Snow-white to clear, transparent crystals—conforming to Dow's rigid standards of purity and uniformity—Paradow is now available in quantity to manufacturers of sanitary specialties. Your inquiry will receive prompt attention.

AGRICULTURAL CHEMICAL DIVISION

THE DOW CHEMICAL COMPANY
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Dow Chemical of Canada, Limited, Toronto, Canada

DOW
CHEMICALS
INDISPENSABLE TO INDUSTRY
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# FOR BETTER PERFUMING OF WICK TYPE DEODORIZERS

USE

# ORBIS WICK ODORS

**IF YOU** manufacture wick type deodorizers
**REMEMBER THIS** —you will get better perfuming with
**ORBIS WICK ODORS** because Orbis Wick Odors
**ARE READILY SOLUBLE** in the aqueous formaldehyde solution,
**INEXPENSIVE** for the preparation of top quality products
**AND SO EASY TO USE** that you will save time and money, too!
**YOU'LL GET** more than your share of value and
**BETTER PERFUMING** at a lower cost. Describe the needs
**OF YOUR PRODUCT** and we'll send you a special circular containing
**FULL INFORMATION** complete list of odors and prices.
**AT NO OBLIGATION,** of course.

New Catalogue now available.
Write for your copy.

**ORBIS**
**PRODUCTS CORPORATION**
*215 PEARL STREET, NEW YORK*
*FACTORY AND LABORATORY: NEWARK, N. J.*

COSMETIC RAW MATERIAL
WATER SOLUBLE GUMS
FOOD COLORS

PERFUME BASES
ESSENTIAL OILS
FRUIT FLAVORS

QUINCE SEED
OLEO RESINS
STEARIC ACID

WAXES
THYMOL
AROMATICS

CHICAGO PHILADELPHIA MEXICO, D.F. BOSTON LOS ANGELES MEMPHIS, TENN.

# READY·TO·USE

# Pyrocide Aerosol Mix

## IN MANY FORMULATIONS

## ALL MADE WITH THE FAMOUS PYROCIDE 88

***For quick sure knockdown and kill*** use the best pyrethrum. Pyrocide 88, accepted as America's finest pyrethrum concentrate, is used in making Pyrocide Aerosol Mix formulations.

***Simplified formulation*** is obtained because Pyrocide Aerosol Mix is ready to use. Select the one that meets your needs and simply add propellant. Inventories are reduced. Your buying problem is eliminated. And top quality, high effectiveness is assured.

***99.99% solubility.*** The Pyrocide 88 used in each Pyrocide Aerosol Mix is 99.99% soluble in Freon or Genetron 102-J. You eliminate clogging and usual difficulties caused by insoluble and waxy materials. Pyrocide Aerosol Mix solves these problems perfectly.

If you prefer to buy ingredients separately and do your own mixing, buy the best pyrethrum—Pyrocide 88 and Pyrocide 175.

***Remember . . . if you use pyrethrum in any form for any purpose . . . contact us at once!***

## McLAUGHLIN GORMLEY KING COMPANY

MINNEAPOLIS, MINNESOTA

MAKERS OF INSECTICIDES — FOUNDED 1902

**McLAUGHLIN GORMLEY KING CO.**
MINNEAPOLIS, MINNESOTA

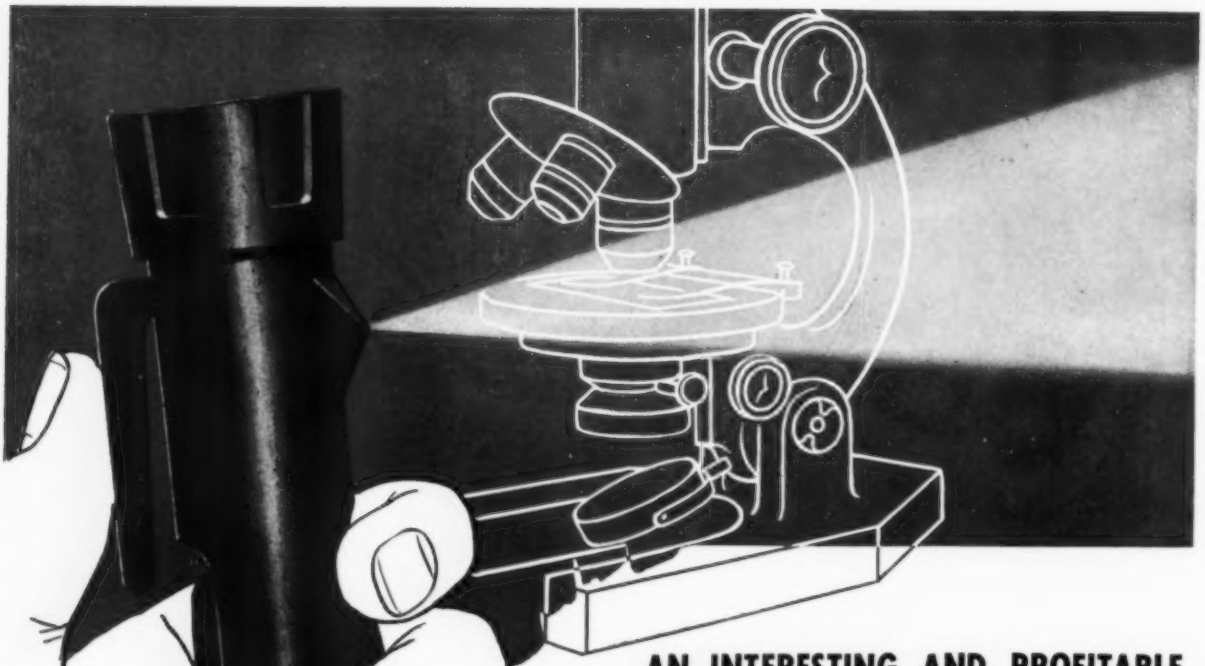
● Please send your latest bulletin on Pyrocide Aerosol Mix.

Name_____

Address_____

City_____ State_____

# THE GLYCOLIZED VAPOR-SPRAY THAT KILLS ODORS . . . AIR-BORNE GERMS



## AN INTERESTING AND PROFITABLE ADDITION TO ANY SALES PROGRAM

**OZIUM**, the new glycol-ized air conditioner quickly eliminates unwanted odors and reduces the danger of infection from air-borne germs and virus.

**OZIUM** acts fast—a light touch on the lever of the patented Woodlet dispenser releases a fine vapor-spray which quickly permeates every corner of the room. The guaranteed dispenser is light, compact, unobtrusive, and easy to use.

**OZIUM** helps to reduce sickness absenteeism and improve working conditions.

IS-024

The **DE LUXE** set containing one attractive chrome plated professional dispenser and 24 pressure-packed glycol-ized **OZIUM** refills.

*Costs less than one cent to treat the average small room.*

Other Woodlet "pressure-packed" refills that are made to dispense through the Woodlet dispenser:

**OZEX** the finger-tip insect killer
**OZECLOR** Ethyl Chloride U.S.P. for local anesthetic
**OZOFF** for the easy removal of adhesive tape
**OZICOTE** the protective lens cleaner contains silicone.

* **OZIUM**

* Reg. U. S. Pat. Off., Pat. Pend.

**Manufactured by WOODLETS INCORPORATED Portland, Pennsylvania**

# HIGH SALES POTENTIAL

## *in Continental's low pressure aerosol container!*

Manufacturers of insecticides, larvicides, household deodorants and other liquid products have discovered a ready consumer market for products packed in Continental's low pressure aerosol containers. And manufacturers in many other fields are investigating its possibilities.

A number of good reasons account for the popularity of this package-dispenser. It is light in weight, easy to operate, convenient to use. It delivers an effective, efficient spray. The container is inexpensive enough to be thrown away after its contents have been exhausted — a retail pricing advantage.

Continental is not only the largest manufacturer of low pressure aerosol dispensers, but also the only manufacturer equipped both to supply container with valve, or the container alone. This "Finger-tip" valve — an exclusive Continental feature — produces a fine spray, the key to the success of this container.

If you are looking for new packaging methods or merchandising ideas, it will pay you to get in touch with Continental.

*You can't beat Continental as a dependable source of supply!*

**CONTINENTAL CAN COMPANY**

100 EAST 42nd STREET, NEW YORK 17, N. Y.

Continental Can Company
Department A
100 East 42nd Street
New York 17, New York

Gentlemen: I would like to have more information about your low pressure aerosol container.

Name.....

Company.....

Address.....

City & State.....

# Check COLUMBIA'S facilities for supplying

**PARA-DICHLOROBENZENE**
All standard mesh sizes
25, 50, 100 and 200 lb. fiber drums

**ORTHO-DICHLOROBENZENE**
55 gallon drums 8,000 gallon tank cars

**MONO-CHLOROBENZENE**
55 gallon drums 8,000 gallon tank cars

These chlorinated benzenes are available for immediate shipment in any quantity, including mixed cars with other products. You may find many desirable advantages for your business by using Columbia facilities—at least, it's worth checking. Do it now . . . contact our nearest district office, or write Pittsburgh Plate Glass Co., Columbia Chemical Division, Fifth at Bellefield, Pittsburgh 13, Pa.

COLUMBIA CHEMICALS

CHICAGO · MINNEAPOLIS · BOSTON
NEW YORK · CINCINNATI
ST. LOUIS · CHARLOTTE · PITTSBURGH
CLEVELAND · PHILADELPHIA

PAINT · GLASS · CHEMICALS · BRUSHES · PLASTICS

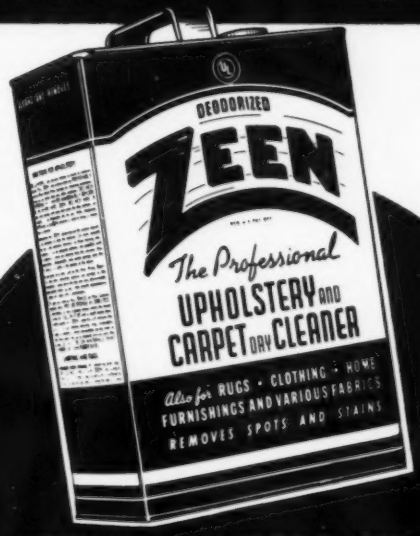
PITTSBURGH PLATE GLASS COMPANY

# Now Available To The Sanitary Supply Trade!

**A Cleaner That Can Be Used Wherever Soap and Water Solutions Cannot Be Used Or Where Ordinary Dry Cleaners Fail To Clean Properly!**

# ZEEN

TRADE MARK


DEODORIZED
ZEEN
The Professional
UPHOLSTERY AND CARPET DRY CLEANER
Also for RUGS • CLOTHING • HOME FURNISHINGS AND VARIOUS FABRICS
REMOVES SPOTS AND STAINS

## The Professional UPHOLSTERY and CARPET Dry CLEANER

*On The Market For 15 Years!*

**SAFELY and THOROUGHLY CLEANS the FINEST SILKS, SATINS, RAYONS, VELVETS and CHINTZES!**

***Designed Especially For Cleaning:* — Fabric-Covered Walls of Theatres, Hotels and Institutions! Upholstered Furniture! Finest Pastel Carpeting, Including Twist Weaves and Orientals!**

*Non-poisonous, — contains no carbon tet!*

Will not cause mildew or rot! Leaves no rancid odor!

ZEEN removes hair oil and perspiration marks from upholstered furniture . . . removes an enormous variety of spots and stains! No fading . . . no injury to materials!

Easy to use . . . with just sponge or brush!

**FOR DETAILS—**

***Write — Wire — Phone***

**ZEEN CHEMICAL CO.**

2000 Elm. St. NW • Cleveland 13, Ohio

# Chemical Specialties Manufacturers Association, Inc.

. . . suggests that you as a manufacturer may wish to look into the advantages of becoming a member. If you manufacture floor waxes or other floor finishes, household insecticides, soap and detergent specialties, aerosol products, disinfectants, sanitizers, deodorants, or allied chemical specialties, the new, broadened activities of CSMA can, we feel certain, repay you many fold for your small investment in annual dues.

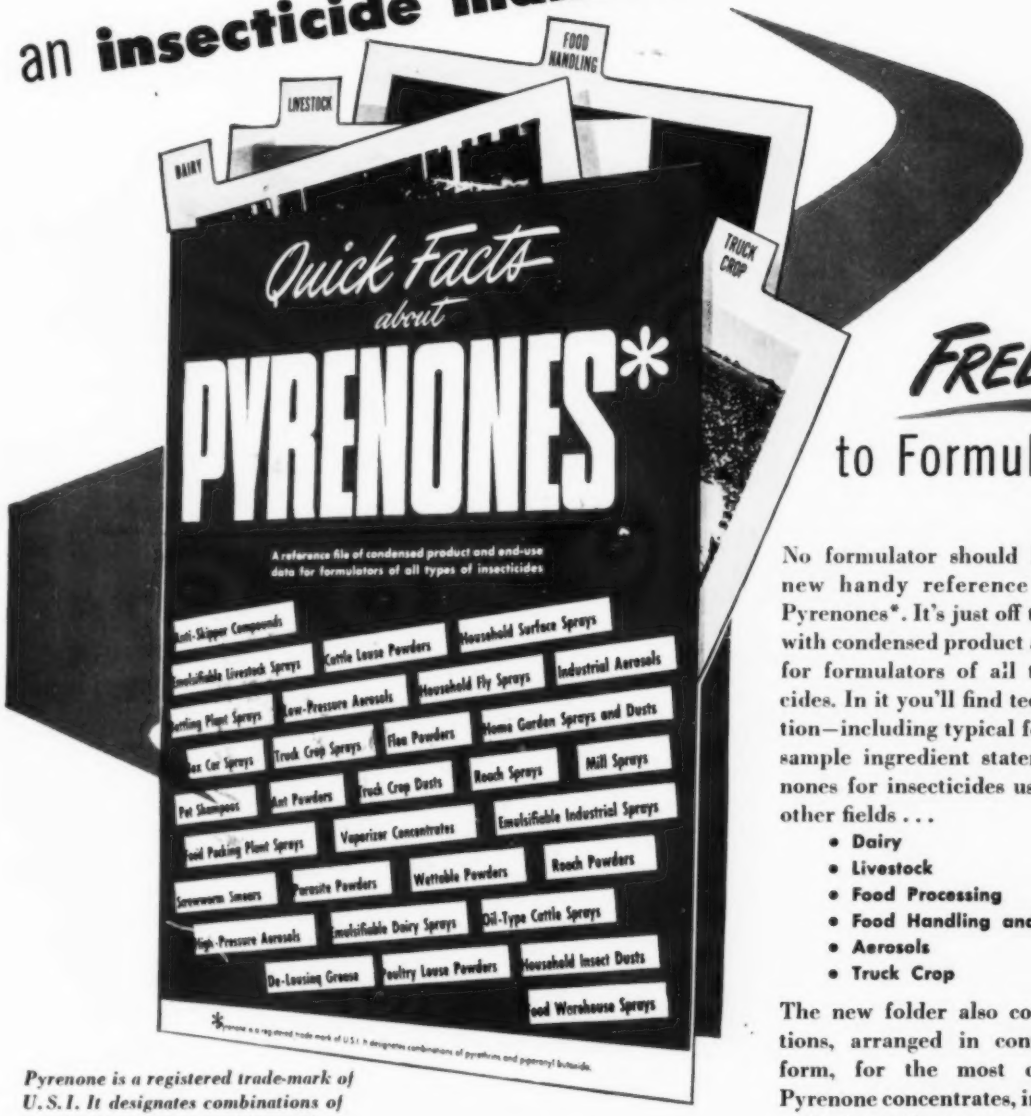
For over 35 years, CSMA (formerly National Association of Insecticide & Disinfectant Manufacturers) has coordinated a wide program of co-operative scientific investigation and product development. Its membership embraces many of the leading manufacturers in the field which it serves. There are also advantages which your firm may share. If we can give you further information about membership, we shall be happy to do so.

**CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, INC.**

110 East 42nd Street — New York 17, N. Y.

H. W. Hamilton, Secretary

# "The most valuable formulating guide an **insecticide manufacturer** could have"




## FREE to Formulators

No formulator should be without this new handy reference file on U.S.I. Pyrenones*. It's just off the press – filled with condensed product and end-use data for formulators of all types of insecticides. In it you'll find technical information—including typical formulations and sample ingredient statements—on Pyrenones for insecticides used in these and other fields . . .

- **Dairy**
- **Livestock**
- **Food Processing**
- **Food Handling and Storage**
- **Aerosols**
- **Truck Crop**

The new folder also contains specifications, arranged in convenient tabular form, for the most commonly used Pyrenone concentrates, including data on active ingredient content, specific gravity, color, flash point, and solubility.

Write *today* on your company letterhead for your free copy of this valuable Pyrenone fact folder.

*Pyrenone is a registered trade-mark of U. S. I. It designates combinations of pyrethrins and piperonyl butoxide*

U.S.I.

**INDUSTRIAL CHEMICALS, INC.**
60 East 42nd St., New York 17, N. Y
***Branches in all principal cities***

**In Canada:** Standard Chemical Co., Ltd., 99 Vanderhoof Avenue, Leaside, Toronto 17, Ontario

# dreyer odors for insect sprays . . .

masking scents

DREYER HAS WHAT YOU NEED! Expertly compounded by our specialists to combat harsh odors . . . Adding their own pleasant scent to the end product. For greater efficiency, MORE ECONOMY, contact the Dreyer chemist.

OXENES • PETROMASKS • D-THANE S-ENCES

P. R. Dreyer Co., Inc.
119 West 19th Street, New York, N.Y.
Gentlemen:

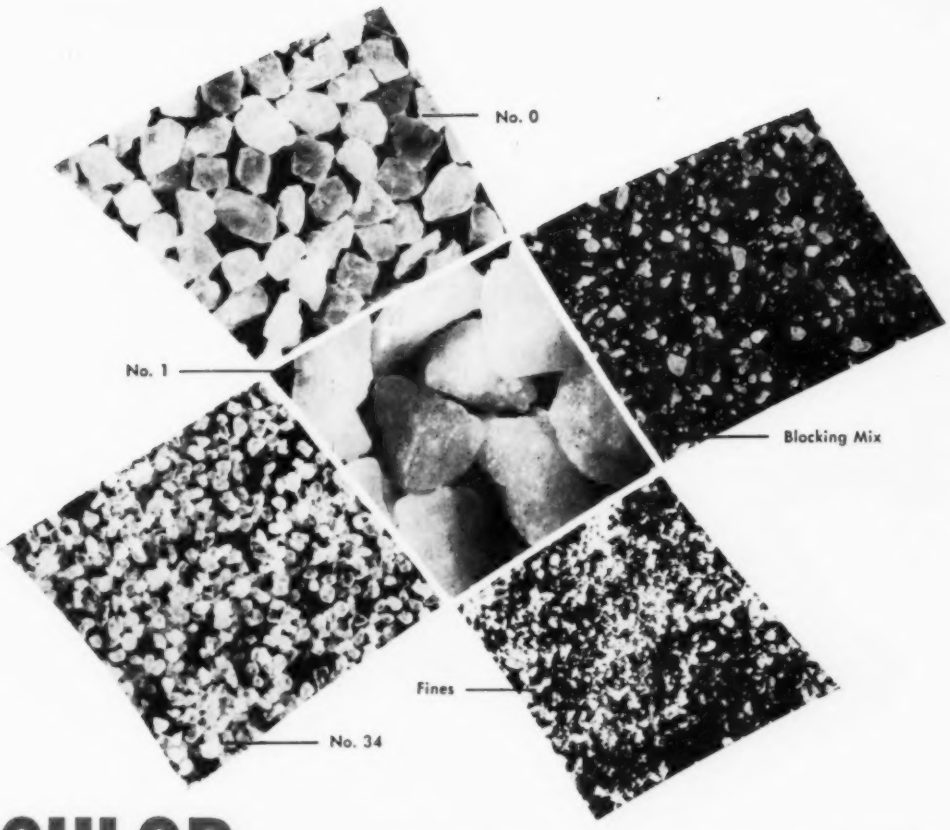
☐ Please send us Catalog "B".
☐ We are interested in

.....
.....
.....

Name.....
Company.....
Street.....
City ..... Zone..... State.....

P.R. Dreyer inc

119 WEST 19th STREET • NEW YORK




# SANTOCHLOR...ready to package or block

**(para-Dichlorobenzene)**

You can hold your packaging and blocking operations to a minimum of time and cost by using Santochlor, Monsanto's para-Dichlorobenzene, as a deodorant, mothicide or as a preparation to control peach-tree borers.

Santochlor is available in five standard crystal sizes, each produced to fit your special needs, as follows:

**No. 0,** approximately ¼-inch pellets, for peach-tree borer control, insecticidal and miscellaneous uses. **No. 1,** approximately ½-inch nuggets, for shaker-top cans. **No. 34,** approximately rice-size granules, for shaker-top cans. **Blocking Mix,** a mixture of sizes under 7 mesh for compressing into cakes. **Fines,** a mixture of sizes of less than 16 mesh for compressing into cakes.

Santochlor is available for immediate shipment, in amounts ranging from 100-pound drums to carloads. For quotations and further technical information, mail the coupon, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk A, Organic Chemicals Division, 1767 South Second Street, St. Louis 4, Missouri. *Santochlor: Reg. U. S. Pat. Off.*

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

MONSANTO
CHEMICALS for PLASTICS

MONSANTO CHEMICAL COMPANY
Desk A, Organic Chemicals Division
1767 South Second Street, St. Louis 4, Missouri

Please send technical data and quotations on Santochlor. Also, if checked, ... booklet: "Santochlor for Clothes Moth Control."

Name ..... Title .....

Company .....

Street .....

City ..... Zone .... State .....

SERVING INDUSTRY...WHICH SERVES MANKIND

[redacted]

**will**

# S-T-R-E-T-C-H *your*

[redacted]

MORE and more attention is being given to synergists or activators to reduce the cost of insecticides for both household and agricultural use.

Not only is n-Propyl Isome recognized as one of the most effective of these agents but it is also economical with respect to price. It retains the much-desired low order of toxicity to warm blooded animals when combined with pyrethrum. n-Propyl Isome has been found to possess synergistic action with a number of insecticides as well as having insecticidal activity of its own.

Samples, prices and data on n-Propyl Isome or n-Propyl Isome combinations for liquid and powder insecticides will be sent on request.

*THE WORLD'S LARGEST BOTANICAL DRUG HOUSE*

**S. B. PENICK & COMPANY**

50 CHURCH STREET, NEW YORK 7, N. Y.
Telephone, COrtlandt 7-1970

735 WEST DIVISION STREET, CHICAGO 10, ILL.
Telephone, MOHawk 5651

# BREUER *Mistmaster*

## INSECTICIDE SPRAYERS

**deliver an abundance of oil-base insecticides—thoroughly atomized—in the shortest possible time**

### Only *Mistmaster* Sprayers give Triple Atomization

The insecticide enters the compression chamber, is combined with the proper amount of air—compressed and warmed slightly above room temperature—and the mixture is then further atomized as it is forced under pressure through a precision machined nozzle.

*Mistmaster* Model 53

### *Mistmaster* FEATURES

**Adjustable Atomizing.** Permits various particle sizes for either space or residual spraying.

**Adjustable Nozzle.** May be placed in any position through a 180-degree arc.

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# SANITARY PRODUCTS
## A SECTION OF SOAP

THE continued high rate of new construction throughout the U. S. is a good omen for sanitary supply sellers during the coming year. One market in particular,—schools,—might be mentioned. Building of this sort is currently going ahead on a wide scale and should continue to do so. To sell this field, or any other large consuming group, the sanitary supply salesman naturally must know intimately the sanitation and maintenance problems of the field. This calls for education and training. Films, booklets, and courses have been prepared by the National Sanitary Supply Association and some local organizations for the purpose of improving and expanding *services* that can be rendered by sanitary supply firms. Failure to take advantage of these sales training programs can make a vast difference in these days of competitive selling.

WHILE the powers-that-be in Washington continue to lead us along the joyous road of the welfare state, continue to tell us how to live better, continue to tell everybody how to do everything, they are missing something very significant,—or else they choose to ignore it. We have reference to the much publicized slums of the capitol city itself, slums in the very shadow of the capitol which abound with rats, mice, lice and other vermin.

While they go far afield to clean up slums out and around the country, the Washington rats,—and we make reference to nothing except the rodents which populate that fair city,—run riot. While they tell the folks in Podunk, a thousand miles away, how to get rid of rats and lice, Washington, we hear, crawls with them.

Now, if the poor folks of Washington slums only had a vote or two, we'll give even money that a crew of pest control operators hardly would wipe out the vermin before the wreckers would be in to tear down and rebuild the place. The shoemaker's barefooted children have nothing on those who have no vote, particularly in the good old welfare state!

THE value of insecticides in continued high output of foods was stressed by an impressive list of people from the U. S. Department of Agriculture at the hearings conducted by the Food and Drug Administration, starting last month in Washington. The purpose of the hearings is to determine tolerances for residues of economic poisons on fruits and vegetables. The testimony from the representatives of the U. S. D.A showed that food production would drop sharply, as would quality, if it were not for the continued use of insecticides.

All this of course applies directly to the agricultural aspects of insecticide use. However, the manufacturer of other than agricultural insecticides has an important interest in these hearings because of the fact that after the food leaves the farm for storage, processing plant or retail outlet, the insecticidal materials applied are considered to be non-agricultural. The continued use of insecticides in storage and processing plants is of vital interest to the consuming public. Such application is of as great importance as that by the farmer or grower. The quality of the testimony presented by the Department of Agriculture representatives and the reputations of the men testifying should go a long way toward aiding an intelligent solution of insecticide residue problems in processed and stored foods.

# *Glycol Vapors for*

# Air Sanitation

FOR a number of years the use of triethylene and propylene glycols as vapors and mists has been studied to determine their efficiency in reducing bacterial contamination in the air. In addition, clinical studies have been undertaken to determine the practical field of usefulness of these agents in lowering the incidence of diseases caused by infectious agents found in the air. Since the aerial route has become recognized as one means of transmission of certain infectious diseases, primarily those of the respiratory tract, it becomes self-evident that the elimination of such pathogenic agents from the air would be attempted. The outstanding gains against gastro-intestinal diseases, for example, as a result of purification of water supplies, proper sewage disposal and pasteurization of milk, prompted investigations to study what could be achieved through sanitary ventilation in the reduction of infections transmitted in the air.

I shall not attempt to review fully the laboratory and clinical investigations which have been undertaken in this country and foreign countries dealing with this field. Only selected material bearing most convincingly on the problem will be presented.

In 1941, Robertson and associates (1) first reported laboratory studies on the virucidal and bactericidal properties of propylene glycol when dispersed into the air as aerosols and vapors. It was found that under carefully controlled conditions there could be brought about a reduction of selected bacterial species, including such pathogens as selected types of pneumococci, certain groups of streptococci, staphylococci, influenza bacilli, *B. Coli, B. Aerogenes* and on some viruses such as influenza virus (PR-8 strain), meningo-pneumonitis and psittacosis viruses (2, 3, 4, 5). The effect of triethylene glycol as a fungicide and the action of propylene glycol on bacterial spores have been studied by Bigg and associates (6, 7). From a practical standpoint triethylene glycol was found to be equally as effective as propylene glycol and was more suitable for application in that smaller quantities were required with lessened condensation on surfaces.

### *Factors in Effectiveness*

UNDER test conditions it was found that the effectiveness of glycol vapors depended not only on adequate amounts (concentration and saturation) of glycol vapor in the air but on other unrelated variables. These include relative humidity and temperature of the air, as well as frequency of air changes. It is of interest to note that the state and size of the bacteria in the air also have a direct bearing on the effectiveness of the glycol vapors. These vapors are reported to be more effective against smaller particles or droplet nuclei than against larger dust particles, and to be relatively ineffective against dried organisms in dust. Thus it was evident that under the most favorable environmental air conditions, the use of glycol vapors required special apparatus for dispersion of the glycol to maintain a constant concentration for the space being treated, with concomitant dust control and suppression. In view of these factors it is apparent that extremely sensi-

* Presented at the Chemical Specialties Manufacturers Association, Inc., meeting, Washington, D. C., December 5-6, 1949.

tive apparatus which in itself can meet all the wide engineering and air ventilation demands must be designed to meet the complex needs. Translated into a practical situation such as the home, it means that for significant vaporization, the relative humidity, temperature and frequency of air change must be accurately controlled. Unfortunately few dwellings are equipped to meet these physical requirements at the present time. Moreover, it is found that the glycol vapors condense on surfaces, walls and windows. Since glycols are alcohols, excessive condensation on surfaces may offer a fire or explosive hazard. It must be kept in mind also that heat is required for vaporization of the glycols. In that connection, temperatures used in the vaporization of triethylene glycol should not exceed 260°F., since above this heat level, the glycol begins to decompose. The identity and toxicity of the break-down products are unknown.

In view of the favorable laboratory reports, clinical studies have been undertaken to determine whether comparable results could be produced for preventing infectious diseases in man. To date beneficial effects have not been reported except under carefully maintained and favorable living conditions in which the person's activities are limited and supervised and which do not simulate normal living conditions.

### *Clinical Findings Meager*

DESPITE the meager clinical findings to support the general use of glycol vapors, the laboratory reports dealing with the bactericidal effects of glycol vapors were quickly brought to a wide audience through non-scientific articles and equally favorable results were predicted to be possible for the population in general. This resulted shortly in the unrestricted distribution of glycol vaporizers by a number of companies. Based on popular articles, unsupported by conclusive clinical studies, extravagant medical claims were made for these units, including the prevention of colds, other respiratory diseases, bronchial ailments and diseases believed to be air-borne. Representative of the claims made are that use of glycol vapors would "reduce infectious air-borne bacteria and viruses which may be responsible for such diseases as influenza, colds, measles, mumps, scarlet fever, chicken pox and pneumonia." These vapors are claimed also to be "extremely beneficial in the prevention of contagion from colds, influenza, pneumonia, tuberculosis, measles, mumps, chicken pox, streptococcus infections and other diseases caused by the spreading of air-borne germs and viruses." Recommendations for use of such devices for homes, schools, industry and places of meeting are stressed by these distributors.

Epidemiologically, the transmission of the various infectious diseases which are alleged to be prevented by glycol vapors is possible in many ways other than through the general atmosphere. In the case of colds for example, sneezing, talking and coughing, direct contact as from hands and kissing, indirectly from contaminated articles and clothing will introduce myriads of bacteria which cannot possibly be eliminated at once by general methods of air sanitation. Accordingly persons who are exposed directly may contract an infection and the presence of glycol vapor in the atmosphere can afford no protection. In this connection it should be repeated that in order for air disinfection to be of any general worth or value, the person to be protected must live constantly in an environment in which the glycol concentration is capable of eliminating all the susceptible bacteria. It readily becomes evident that this is a practical requirement which we are unable to fulfill in our everyday life.

### *Engineering Supervision Needed*

IN the few field trials that have been undertaken to evaluate the clinical usefulness of glycol vapors, constant engineering supervision has been necessary. Even in completely air-conditioned environments in which measures are undertaken concurrently to control dust, it has been difficult to maintain adequate concentrations of the vapor. In a recent study reported by Dr. W. J. McConnell, Assistant Medical Director of the Metropolitan Life Insurance Company (8) it was concluded "under the conditions of the experiments, we are unable to demonstrate any reduction in the number of air-borne bacteria, nor a reduction in the absentee rate, nor in the incidence rate for minor respiratory illnesses, which were attributable to vapor action." Five hundred persons engaged in office work participated in this study over a two-year period.

Loosli and associates (9) conducted a study aimed at controlling cross infections in infants' wards by means of triethylene glycol vapor. As

# ...The F. D. A. View—

**By Irvin Kerlan, M. D.***

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is readily appreciated the problem of prevention of cross infections in infants' and children's wards is a serious and important one. With adequate dispersal and control of glycol vaporization to produce a consistent and significant reduction of bacteria isolated from the air, there was no significant reduction in clinical infections.

In view of the potential public health significance of glycol vapors in air sanitation, the Director of the National Institute of Health, United States Public Health Service, early in 1947 issued a statement indicating that the use of glycol vapors was in the experimental stage and that studies thus far conducted did not warrant the installation of equipment in the hope of diminishing upper respiratory infection.

The American Public Health Association established a Committee on Air Sanitation to follow and evaluate methods to control air-borne infections. This Committee has issued several review articles which cover this field. It has (10) routinely pointed out that glycol vapors may be "useful adjuvants to aseptic techniques in the reduction or elimination of air-borne infections in operating rooms and in contagious disease and pediatric wards," providing competent engineering supervision is available to insure the adequacy of the installation to maintain its continued effectiveness and to protect both personnel and patients. Moreover this Committee concluded "The general use of disinfectant vapors in schools, barracks and in specialized industrial environments is not justified at the present time. There is no justification for the indiscriminate use of methods for disinfecting the air in homes, offices, or places of public congregation." A recent editorial entitled "Commercial exploitation of Glycol Vaporizers" (11) appeared in the February, 1949, *American Journal of Public Health*, again calling attention to the reckless misuse of glycol vapors.

In a timely review (12) "Present Status of Air Disinfection" issued by the Committee on Ventilation and Air Disinfection of the Army Epidemiological Board, glycol vapors are discussed. Here we find the statement "The commercial exploitation of glycol vaporizers for home, school and industry as a panacea for the prevention of colds is most unfortunate."

The Council on Physical Medicine and Rehabilitation of the American Medical Association (13) expressed the opinion that evidence does not justify the use of generators of glycol vapors in schools, offices, theaters, and public buildings because the results were not convincing. Other similar reports repeating the views already presented have appeared in the scientific literature.

### *Views of the FDA*

THE Food and Drug Administration, on the basis of scientific evidence available, has expressed the view in correspondence and interviews with manufacturers, that we seriously question whether glycol vapors are of any practical value under ordinary home and office conditions and doubt whether it is possible to write adequate directions for the use of the devices in view of the strict and constant engineering control required to maintain effective concentrations of glycol vapor.

A seizure was made recently of an interstate shipment of ultraviolet lamps for which claims relating to prevention of colds, pneumonia and other infectious diseases were alleged to be false and misleading. The Government's charges were upheld by the Court and the labeling claims were held to constitute misbranding. In the presentation of this case, the nature of spread of communicable diseases was discussed by competent epidemiologists who stated that the use of air sterilization methods would be of no benefit in prevention of infectious diseases acquired by direct contact.

In summary, it must be stressed that in view of the wide number of unrelated technical variables involved in the use of glycol vapors and the epidemiological problems involved in the spread of infectious diseases (some of which are yet to be determined) the use of glycol vaporization as a suitable method of attack on susceptible bacteria in the air in the interest of disease prevention lacks general practical application and the claims that infectious diseases can be eliminated by use of glycol vapors appear to be unwarranted.

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Further studies of flies resistant to DDT, p,p'-DDT, and the methoxy analog of DDT, indicate that flies which were resistant in the first three generations, were still resistant in the tenth and eleventh generations. However, the DDT resistant flies were no more resistant to other chemicals than normal laboratory bred flies. Insecticides investigated included toxaphene, chlordane, parathion, benzene hexachloride and tetraethyl pyrophosphate. *J. Econ. Entomol. 42*, 287-92 (1949).

# Chemicals In Insecticides

**By M. D. Farrar** *

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RELATIVELY simple chemicals were used to control insects up until about 10 years ago. Among these poisons were the arsenicals, the fluorides, the plant poisons derived from derris, cube, pyrethrum, and tobacco, the emulsions of mineral oils, the fumigants, paradichlorobenzene, hydrocyanic acid, chloropicrin, carbon tetrachloride and carbon disulphide. With these materials we were fairly successful in the control of many insects, but when their use was supplemented by cultural practices, rotations, and sanitation, farmers could produce crops with a higher degree of success. In general, most of these insecticides did not present unusual hazards to the operator. However, they did lack the degree of toxicity toward insects that was much desired by the entomologists.

About 10 years ago the whole entomological picture rapidly began to change. Chemicals of organic nature were discovered that killed insects by physiological approaches new to the insecticide field. Insect elimination or perhaps eradication appeared to be just around the corner. An abrupt change of thought was brought about by the introduction of these new materials. With them we were able to destroy insects beyond our fondest dreams.

This very bright outlook lasted only a few years or until it was discovered that these new insecticidal chemicals had brought with them many complex problems. The solution of these problems may require many years of research. The discovery of DDT and the host of new insecticides that appeared shortly afterwards essentially have made obsolete control recommendations of a few years back.

With these new compounds almost any type of insect outbreak may be brought under control. In addition insects formerly considered impossible to control are responding to the new insecticides.

The immediate problem is not one of uncovering a new toxic chemical. On the books of the research staff of chemical companies are many such compounds that have been screened or tested for one or more uses. A compound that gave no response when screened for the first time may still be very useful. It will require years of costly research to evaluate these chemicals and develop in agriculture a use for the better materials.

The dividing line between the right and wrong chemical is very narrow. The insects and diseases that we are attempting to control are living things, related in many ways to plants and animals. To destroy the pest without injury to the host is the primary objective in our search for pesticides.

Insect resistance to insecticides, such as accompanied the use of DDT in house fly control, is not a new discovery. This condition of so-called resistance has been noted many times in literature and includes a great many insects and mites. Entomologists are not agreed as to why insects become resistant to certain insecticides. However, there are sufficient numbers of instances, where control has failed, to satisfy the most skeptical that insects and mites do become resistant.

The last two years of spraying for control of flies with DDT brings to our attention the fact that the extensive use of a chemical against an insect may quickly change the biology and physiology of that insect.

The wide spread use of DDT on many insect species has equally demonstrated that the biological balance of natural control is of far greater importance than was formerly recognized. Natural enemies of major and minor pests have been destroyed by DDT, causing some minor pests to become very serious. This is particularly true of insects that have been difficult to control with insecticides, such as leaf miners, and other insects living largely within the tissues of plants. The destruction of their respective parasites by chemicals such as DDT is a very important biological problem.

From the point of view of control, the search for chemicals should be for those materials that are quite specific against an insect specie. It may require considerable research and testing to uncover just the right chemical but certainly this must be kept in mind in the search for insecticides and miticides.

The program of research and development in the field of insect and disease control must be continued. So intense have been developments in insect control since the last world war that manufacturers, in order to amortise their investments, have been forced to market some products before they could be tested adequately. Many of

* Paper presented before the Chemical Specialties Manufacturers Assn., Washington, D. C., December 5-6, 1949.

the difficulties which we are in today cannot be blamed alone on the manufacturer. The public demand for the new materials has been so insistent that materials have been placed on the market without adequate experimental data. It is not surprising, therefore, that many adverse conditions developed following the use of these new chemicals.

In order for the business of manufacturer to survive, industry must make products that can be sold at a profit. The manufacturer of insecticides today is faced with many perplexing problems. In periods of rapid change industrial management must make difficult decisions relative to new materials or markets.

Corporations that distribute as well as manufacture can add a new material to their line of products with little difficulty. If something goes wrong with the new product it can be withdrawn. However, the company that must depend on some other outlet for their product has to proceed cautiously in the marketing of a new product. Even well planned programs of manufacturer and markets have been greatly disturbed by sudden changes in recommendations and rulings made by state and federal agencies.

It will be several years before this state of confusion can be eliminated. New products have appeared as insecticides, miticides, fungicides, etc., literally to swamp all rational testing facilities. As a result, the workers in every field are pressed for information on problems where no adequate data are available.

One of the most perplexing of these problems is the acute and chronic toxic levels at which pesticides are injurious to man, animals and plants. Chemical residues are now recognized both as an external and internal contamination of many food products.

Government agencies and private laboratories have been working around the clock to give answers to this problem. Within a few months opinions have changed to alter greatly the toxicological picture of organic pesticides. As data become available for study, chemicals that originally were considered safe are now subject to question.

### *Cumulative Toxicity of Residues*

WE cannot confine our study of residues from organic pesticides at the level of acute toxicity. Detailed experiments on animals have shown that acute toxicity is of little importance with some of the new materials. Even very small amounts of some chemicals when taken over a sufficient length of time cause injury to normal animals. One needs only to refer to some of the recent data published on organic insecticides to realize how toxic some of them can be at very low levels. Research of this type is time consuming and extremely costly.

A sufficient amount of data is now available to illustrate the type of information that must be obtained on new materials before they are to be marketed. The very nature of these tests is so slow that industry of necessity will have to assume the major burden of this testing during their screening of new chemicals. It cannot afford to make the heavy investment in the development of a new material without an adequate toxicological background. This will mean a greatly increased cost in the development of a new material.

Highly toxic chemicals are not new in the pesticide field. Hydrocyanic acid, nicotine, and many other toxic materials have been used for years. They, too, have caused sickness and death through careless application and unforseen circumstances. All of the chemicals with which we are working can be considered toxic when improperly used. The recent injuries and deaths from certain organic phosphates have brought to our attention the fact that if we are to employ highly toxic chemicals for pest control, we must teach the people who are to use them proper safety measures. This point cannot be emphasized too strongly.

Unless we use these new materials safely and without injury to man, animals or plants, ill advised legislation will greatly cripple progress. Perhaps we have reached the stage where we should inventory our progress before plunging deeper into these unexplored fields.

There are several schools of thought as to how industry should proceed in the search for new pesticides. Certainly industry has at its command the equipment, the funds, and the technical workers for the rapid synthesis of new compounds. Since profits are essential in industry, it will be necessary that certain of these chemicals be developed into marketable products. To do this, industry must maintain screening and testing laboratories where they can obtain basic data on new compounds. From the many compounds tested only a relatively few should ever reach the public for testing by private, state or federal agencies. Such a program will mean that industry will have a heavy investment in new products. It will also mean that only those companies with adequate funds can support research toward the development of new pesticides.

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Ponds and other stretches of water are freed from larvae of mosquitoes and like insects by applying to the pond a stable, disperse system of oil and water containing an emulsifying agent; the water constituting the continuous phase and the disperse phase consisting of particles of oil, some of which are lighter than water and some of which are heavier than water. The oil particles of both groups are toxic by virtue of addition of pyrethrins, rotenone, or DDT, dissolved or dispersed in the oil. This preparation exerts a surface toxic action and is also effective against larvae beneath the water surface. S. Allen & Sons Ltd., T. F. West, H. Hurst, and J. H. Schulman, British Patent No. 572,998.

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Antifungus agents which may be employed as vapors, in the form of dust, solutions, or dispersions, or may be impregnated in wrapping materials such as wax paper or cellophane may be made from the dialkyl esters of 2, beta-dichlorosuccinic acid in which the alkyl groups contain not more than four carbon atoms. U. S. Patent 2,480,010 to I. H. Flett (Allied Chemical & Dye Corp.)

*Difficulties Encountered in*

# Testing Quaternary Germicides

**By L. S. Stuart, John Bogusky and J. L. Friedl***

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**PART II**

IT appears to be the popular belief that tests of a more critical type, such as micro and semi-micro phenol coefficient procedures, "use dilution procedures," or procedures in which some type of organic matter is incorporated in the mixture of germicide and test organism suspension in the medicant tube, can be employed to secure a sharp end point in cases where the phenol coefficient procedure appears to fail. Our experiences with tests of this type have not indicated these beliefs to be entirely valid. With all such tests the results with quaternary ammonium germicide 1 and quaternary ammonium germicide 2 have indicated subculture survivor probability curves of the same order and characteristics of those secured by the phenol coefficient technique. That is to say, if a germicide shows in tests of the type reported herein a large zone of occasional survivors, it will tend also to show a large zone of occasional survivors at a lower level in the more critical type of test. If the subculture survivor curve is vertical in one case, it will tend to be vertical also in the other case; and, if it slopes at an acute angle in the phenol coefficient procedures, it will slope at an acute angle in the more critical test. Thus, while tests of the more critical type may be desirable and necessary for confirming results secured by the phenol coefficient procedure, or for use in lieu of this procedure with certain products, it is difficult to see how the value of isolated or single determinations by these methods can be considered as providing a more precise or reliable index to the safe use dilution of these products than the phenol coefficient procedure. Such a test may provide, depending upon the selection of test conditions representative of conditions encountered in actual practice, a more accurate index to the safe use dilution for a particular recommended use.

With quaternary ammonium germicide 1 and quaternary ammonium germicide 2 used in this study, the results shown in Table I secured by the ring carrier use dilution method indicate quite clearly that the recommended use dilutions of 1-4000 and 1-5000, as calculated in the conventional manner from the phenol coefficients claimed, are too high to provide for reliable disinfection. It is of particular interest to note here that the percentage of rings showing growth after exposure to quaternary ammonium germicide 1 at a dilution of 1-4000 of 42.5 corresponds closely to the percentage of surviving subcultures at 1-18,000 shown for this product for the phenol coefficient procedure in Figure 2. 31 percent of survivors on rings at 1-5000 for quaternary ammonium germicide 2 in this table corresponds closely to the percentage of surviving subcultures shown in Figure 3 for this product at the mean critical killing dilution level of 1-25000.

TABLE I. Confirmative Ring Carrier Use Dilution Test Results on Commercial Quaternary Ammonium Germicides

| Quaternary Ammonium Germicide 1 at Dilution of 1 - 4000 | | | Quaternary Ammonium Germicide 2 at Dilution of 1 - 5000 | | |
|---|---|---|---|---|---|
| *Det. No.* | *Number of Rings* | *Number Showing Growth* | *Det. No.* | *Number of Rings* | *Number Showing Growth* |
| 1 | 6 | 4 | 1 | 6 | 1 |
| 2 | 6 | 2 | 2 | 6 | 4 |
| 3 | 6 | 4 | 3 | 6 | 1 |
| 4 | 6 | 1 | 4 | 6 | 3 |
| 5 | 6 | 3 | 5 | 6 | 2 |
| 6 | 6 | 3 | 6 | 6 | 3 |
| 7 | 6 | 3 | 7 | 6 | 0 |
| 8 | 6 | 4 | 8 | 6 | 1 |
| 9 | 6 | 1 | 9 | 6 | 1 |
| 10 | 6 | 1 | 10 | 6 | 1 |
| 11 | 6 | 3 | 11 | 6 | 2 |
| 12 | 6 | 3 | 12 | 6 | 2 |
| 13 | 6 | 3 | 13 | 6 | 1 |
| 14 | 6 | 4 | 14 | 6 | 2 |
| 15 | 6 | 2 | 15 | 6 | 3 |
| 16 | 6 | 3 | 16 | 6 | 2 |
| 17 | 6 | 2 | 17 | 6 | 4 |
| 18 | 6 | 0 | 18 | 6 | 1 |
| 19 | 6 | 3 | 19 | 6 | 0 |
| 20 | 6 | 2 | 20 | 6 | 3 |
| TOTAL | 120 | 51 | TOTAL | 120 | 37 |

It would be nice to be able to report that similar ring carrier tests at dilutions of 1-2000 and 1-2500, respectively, showed 100 percent kill of the test organism. These are the safe use dilutions one might suggest for the two products based on minimum phenol coefficient values calculated by employing the dilution values at the absolute zero points indicated in Figures 2 and 3 and the mean dilution resistance of the culture to phenol. Safe use dilutions of the same magnitude might also be suggested by correcting the mean critical killing dilutions by a factor of ½ to correct for the proportionate differences in the size of the occasional survivor zones over the similar zones observed with phenol, before calculating the co-

* Paper given by L. S. Stuart before Disinfectant and Sanitizers Division, Chemical Specialties Manufacturers Assn., Washington, D. C., Dec. 5.

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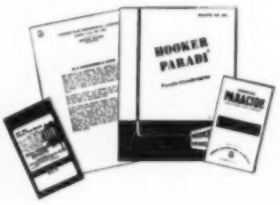


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efficient values. This cannot be done. Actually, tests at these levels by the ring carrier method showed a small percentage of survivors. The slope of the percentage survivor curves by this method appears to approach the zero point at these levels, but with both products the curves are so close to and parallel with the base line between the dilution of 1-500 and these levels that the true end point by the method has not been determined with sufficient accuracy to warrant reporting at this time. Possibly the 1-2000 and 1-2500 levels might be considered as safe disinfecting levels for these two chemicals under some conditions of use. It would seem, however, that somewhat more concentrated solutions may be necessary to secure reliable disinfection under many other conditions.

A primary problem in selecting any critical use type test is the selection of conditions which can be considered representative of those occurring in the use for which the product is recommended. It seems quite clear, from our studies on these samples, at least, that the actual 100 percent critical killing dilution at the 10 min. period in this type of test can be set at almost any empirically selected level between the dilution of 1-500 and 1-2000 for quaternary ammonium germicide 1, or 1-500 and 1-2500 for quaternary ammonium germicide 2, by the simple expedient of varying such factors as the ratios of medicant to the surface areas of the carrier and/or the medicant tube, the volume of culture in relation to the volume of medicant and the percentage and type of organic matter added to the medicant with the test organism.

The failure of the more critical types of tests examined to provide, percentagewise, a more sharp or precise 100 percent critical killing end point at the 10 min. interval than the phenol coefficient type of test for the 10-12 min. interval would seem to rule out the possibility that the major factors contributing to the lack of precision in the phenol co-efficient procedure with quaternary ammonium germicides are the existence of a large random sampling error and clumping of the test organisms. On the other hand, such results do suggest strongly that the major factor may be an inherent property of the germicide solution itself. On this score, the recent report of Fuoss (*Science*, Vol. 108, 2812, p. 545, 1948) on the activity of polyelectrolytes in solution is particularly interesting, for information is furnished therein to show that the uniformity of ionization with water solutions of quaternary ammonium salts decreases as the concentration is lowered. The observation has been made herein that the sharpness of the end point with quaternary ammonium germicide 1 in the phenol coefficient technique could be materially improved by increasing the pH from 6.0 ± .3 to 8.0 ± .2. This would seem to lend further support to the belief that erratic results in the method may be largely due to some such factor as lack of uniform contact of the product with all the bacterial cells present, due to lack of uniformity in the physical and chemical properties within the germicide solution itself.

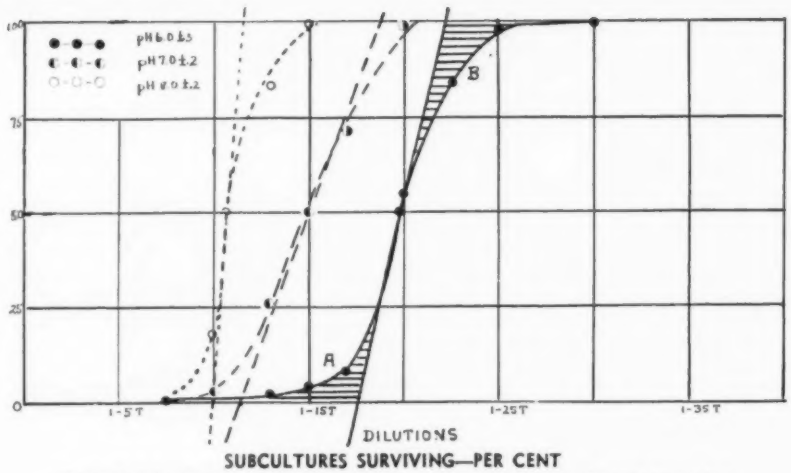


**Figure 2: Subculture survivor probability curves for commercial quaternary ammonium germicide 1.**

The results secured in the pH studies with both quaternary ammonium germicide 1 and quaternary ammonium germicide 2 were somewhat surprising and deserve further comment. With both products the effect of varying the pH over the wide range from pH 5.0 to pH 9.0 on the 100 percent critical killing dilution for the 10 to 12 min. period was not particularly significant. The sharp optimum pH values for products of these types reported in the literature therefore appear to be based on either initial count reduction rates or isolated chance determinations and apparently have little to do with actual germicidal values. With quaternary ammonium germicide 1, the pH of the water dilution at 6.0 ± .3 is close to the optimum pH value most frequently assigned to this product in the literature. It can be seen from Figure 2 that the increase in activity at this level over pH 7.0 ± .2 and pH 8.0 ± .2 is largely one of the increased count reduction activity at the higher dilutions to an extent great enough to increase the probability of securing a greater proportion of negative subcultures in any series of determinations in the test. All of the surviving subculture probability curves for quaternary ammonium germicide 2, in Figure 3, slope to a much greater degree than those for quaternary ammonium germicide 1, in Figure 2. It has generally been conceded that quaternary ammonium germicide 2 is more active than quaternary ammonium germicide 1. While this appears to have some justification based on the most probable 100 percent critical 10-12 min. killing dilution indicated, the greatest difference between the two products appears to be greater activity on the part of quaternary ammonium germicide 2 to reduce significantly the count of the test organism over a wider range of dilutions on and above the 100 percent critical 10-12 min. killing level. All this tends to focus attention on the danger of accepting high germicidal activity claims for new pro-

(*Turn to Page* 145)

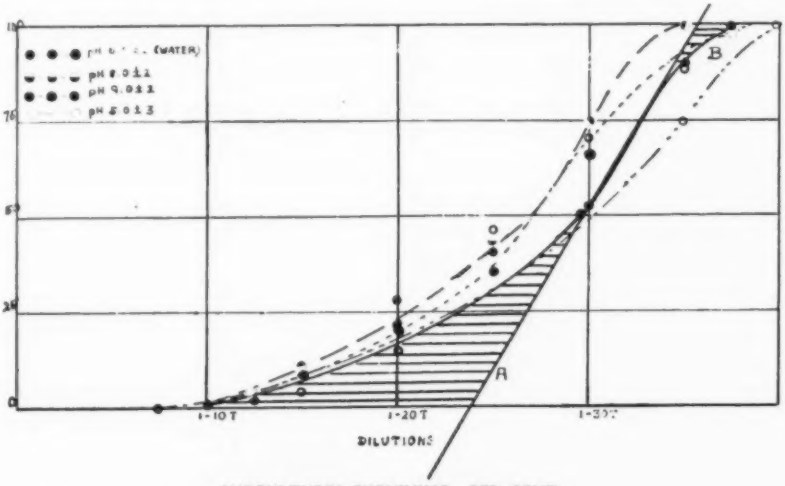


**Figure 3: Subculture survivor probability curves for commercial quaternary ammonium germicide 2.**

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# Raticidal Potentialities of WARF-42

By D. Glen Crabtree†

Biochemist, Wildlife Research Laboratory, Fish and Wildlife Service, U. S. Department of the Interior, Denver*

ATTENTION was drawn to the application of anticoagulant substances for rat control by the report of the English worker, J. A. O'Connor[1] who, in April, 1948, described the successful use of dicoumarin in controlling wild rats under field conditions. Dicoumarin was found to be an active rodenticide without the disadvantages exhibited by those in common use, which are: general rapidity of action, eliciting acute symptoms of poisoning, and producing the troublesome condition of "bait shyness" when eaten in sublethal amounts. This drug was found to produce its effects slowly by inducing a fatal hemorrhagic disease rather than an acute poisoning. Other than the fatal bleeding, usually internal, no other symptoms were noted and the rats continued to eat freely of the dicoumarin bait until death ensued.

The employment of anticoagulants as raticides involves a principle new to rodent control—the ingestion of successive doses of a chemical or a mixture of chemicals incorporated into baits in such low concentrations that its presence is not detected by rats. The paper mentioned above was of particular interest to Dr. Karl Paul Link and his associates in the biochemistry department at the University of Wisconsin, since it was in his laboratories that the causative agent of "sweet clover disease" was determined. This disease is a frequently fatal hemorrhagic condition affecting livestock, principally cattle and caused by the ingestion of spoiled sweet clover hay.[2] The constituent in spoiled sweet clover hay responsible for "sweet clover disease," was found to be 3,3' – methylenebis (4 hydroxycoumarin) subsequently named "Dicumarol". Following the isolation synthesis, and description of the compound by Dr. Link some years ago, he and his department continued studies in this field, synthesizing dozens of compounds having a haemorrhagic action and studying their effects on animals. Dicumarol has since found a vital role in human medicine in the treatment of thrombosis. In this connection its physiological action and the mechanism for controlling excessive doses of the drug through the use of Vitamin K have been extensively studied by many research groups throughout the country.

In the search for a derivative of "Dicumarol" having a faster action than the latter, Compound No. 42 (3-(1-phenyl-2 acetylethyl)-4-hydroxycoumarin), so named from the number of the research paper describing it, was synthesized in 1942 and found to be an exceptionally active anticoagulant when tested on rabbits. Based on this reaction, Dr. Link made the following comment in his notebook at that time. "Might make a good exterminating agent." Further work with Compound No. 42 was interrupted by the war but was resumed in 1947, at which time the chemical was found to be lethal to rats and mice when incorporated into their diet in extremely small amounts.

The reaction of rats and mice to Compound No. 42 led the Madison group to believe that this chemical possessed the greatest rodenticidal potentialities of any of this group of anticoagulant compounds prepared to date.

A conference on the possible usefulness of anti-coagulants as rat control agents was held in Dr. Link's laboratory at Madison, Wis. on Dec. 1 and 2, 1948 in which representatives of the Wisconsin Alumni Research Foundation and commercial sources of rodent control materials participated. Investigations with Compound No. 42 were begun at the Wildlife Research Laboratory on December 6, 1948. Subsequent studies have been conducted in close collaboration with Dr. Link and Dr. Carl H. Krieger[3] of the Wisconsin Alumni Research Foundation Laboratory at Madison, Wis.

The first problem to be attacked was the possibility of utilizing Compound No. 42 alone or combined with another anticoagulant, 2-pivalyl-1,3-indanedione, as a means of killing rats when administered at a single dose. This combination was predicated on the hypothesis that 2-pivalyl-1,3-indanedione, which was observed to exert a destructive action upon the capillaries when combined with the hypoprothrombinemic action of Compound No. 42 might accomplish this end.

Since it was deemed convenient to use bioassay baits consisting of dried white bread crumbs, anti-coagulant com-

† Based on a paper given before Chem. Specs. Mfg. Assn., Washington, D. C., Dec. 5, 1949.

[1] O'Connor, J. A. The Use of Blood Anti-Coagulants for Rodent Control. *Research* Vol. 1, No. 7, 334-336 (April 1948)

* Research on rodenticides and rodent repellents at this laboratory has been facilitated through cooperative arrangements with other agencies. Particular mention should be made in this instance of assistance given by the Wisconsin Alumni Research Foundation and the Quartermaster Corps of the U. S. Army.

[2] Overman, R. S., Stahman, M. A., Sullivan, W. R. Huebner, C. F. Campbell, H. A., and Link, K. P. Hemmorrhagic Sweet Clover Disease, VII. The Effect of 3,3'-methylenebis (4-hydroxycoumarin) on the Prothrombin Time of the Plasma of Various Animals. *J. Biol. Chem. 142*, 941-55 (1942)

[3] Krieger, C. H. Compound No. 42—A New Anticoagulant as a Rodenticide. *Pests and Their Control*, Page 24, May (1949)

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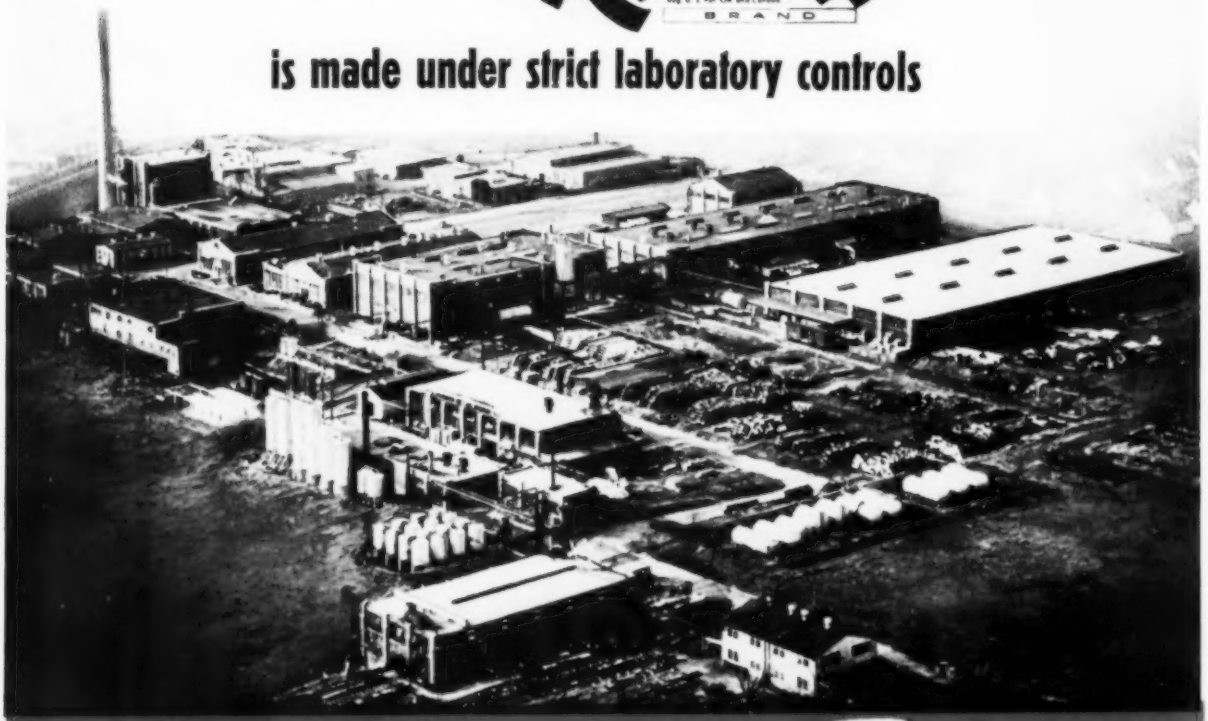

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**TABLE I.**

| Substance used | Percentage in bait | Dosage in mg/kg. per day for 5 consecutive days | No. of rats fed | No. of rats killed | Time of death in days from initial feeding |
|---|---|---|---|---|---|
| Compound No. 42 | .05 | 5 | 10 | 10 | 5 — 7 |
| 2-pivalyl-1, 3-indanedione | .05 | 5 | 10 | 6 | 5 — 8 |
| Mixture of 1 part of 2-pivalyl-1, 3-indanedione and 1 part Comp. No. 42 | .05 | 5 | 10 | 8 | 5 — 9 |
| Dicumarol | .3 | 30 | 10 | 0 | —— |

pounds in the desired percentage, and five percent mineral or corn oil as a binder, the question of possible retarded absorption of these drugs in the presence of oil was raised. Several of the early experiments were designed to produce information on this point.

Single dosages ranging from 15-500 mg/kg. of Compound No. 42, a mixture of 2 parts of 2-pivalyl-1,3-indanedione and one part of Compound No. 42, and Dicumarol were administered to fasted male albino rats. Only 10 deaths occurred among the 240 animals subjected to these procedures. No difference in results could be demonstrated due to the presence or absence of five percent mineral oil or corn oil in the test baits.

At this point the single dose approach was abandoned and research involving the voluntary ingestion of multiple doses instituted.

From experiments in which a total of 190 rats were fed an allotted dose (5-60 mg/kg.) of Dicumarol, Compound No. 42 or a mixture of equal parts of 2-pivalyl-1,3-indanedione and Compound No. 42 daily for five consecutive days it was apparent that Compound No. 42 was a much more efficient rat killing medium than Dicumarol. Likewise, it was demonstrated that Compound No. 42 alone was superior to 2-pivalyl-1,3-indanedione or a mixture of equal parts of 2-pivalyl-1,3-indanedione and Compound No. 42. Data typical of these experiments are given in Table I.

As a result of these experiments further work with Dicumarol and 2-pivalyl, 1-3 indanedione was dropped.

Following the successful demonstration of the application of the multiple dose technique in the laboratory, experiments were started with baits suitable for use in the field.

In order to evolve a practical field bait employing a minimum concentration of Compound No. 42 compatible with effective control, a starting point of one mg. of Compound No. 42 per gram of bait (0.1%) was selected. Previous laboratory work indicated a sufficient intake of Compound No. 42 would be assured in the case of rats and mice at this level. Following the successful demonstration of control in the field with baits containing 0.1% Compound No. 42 this concentration would then be lowered to 0.05%, 0.025%, etc., until a point was reached at which effective control of Norway and black rats, and house mice, could not be generally attained. Such data would then reveal the concentration at which Compound No. 42 should be used in baits for operational control work.

Laboratory studies were conducted with a field bait containing 0.1% of Compound No. 42 simultaneously and subsequent to initial field trials. These experiments were of the so-called "bull pen" type in which 25 or less animals are confined in a common cage and the test baits exposed to them for the desired period of time either in the presence or absence of the regular ration. Water was available at all times when food baits were being studied. A group of rats confined in a common cage exhibit to some degree the feeding reactions of a wild population. Twenty-five laboratory rats selected at random are apt to include aberrant individuals to which the bait presented is not especially attractive and the symptoms of poisoning observed in others creates a cautious feeding reaction. Also, individuals exhibiting idiosyncrasies with respect to the physiological action of the test substance are apt to appear in such a group.

Experience has shown that a "bull pen" exposure is a fairly rugged test for the determination of the potential value of a candidate rodenticide and it has not been a common occurrence at Denver for all 25 animals to succumb when the usual control chemicals are presented in this manner.

The bait selected for field trial was a "semi-permanent" one widely used by the Fish and Wildlife Service. It is hereinafter referred to as Compound No. 42 field bait, and had the following composition:

| | |
|---|---|
| Fresh ground pork back fat | 20 lbs. |
| Ground white bread crumbs | 40 lbs. |
| Breakfast rolled oats | 40 lbs. |
| Fish oil | 1 qt. |
| Viobin (an antioxidant) | 8 oz. |
| Compound No. 42 | 46 grams |

In bull pen experiments involving groups of rats (total of 130 rats) housed 25 or less to a common cage, exposure of the 0.1% Compound No. 42 field bait from four to five consecutive days, both in the presence and absence of their regular ration, resulted in a mortality of 94.6% of the animals. In the course of these trials, it was found that the ingestion of Compound No. 42 need not be on consecutive days. When one to four day intervals were allowed to elapse between Compound No. 42 intake, the result was not altered. Thus, it appears that no significant tolerance to this chemical is built up through repeated experiences with it over a considerable period of time.

In an experiment in which a Compound No. 42 rat bait was presented to 10 albino mice in the presence of their regular ration, nine of the 10 succumbed within nine days.

At this juncture, tests were started to determine the effectiveness of Compound No. 42 when presented in water to laboratory rats. In these experiments the acid form of Compound No. 42 was first dissolved in ethyl alcohol and an appropriate amount of this solution added to tap water to furnish the desired concentration. Later the sodium salt of Compound No. 42, which is quite water soluble, became available for additional tests. Both forms were found to be equally effective.

Here again "bull pen" exposures to groups of 26 or less male and female rats

**TABLE II.**

| Date | No. of Male & Female Rats | | Type of water given No. 42 Sol. .02 mg/ml. ad libitum (Sodium salt) | Tap water ad libitum | Water intake 42 Sol. | Water intake Tap Water | No. of Deaths | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | | | | | Male | Female |
| 7/ 5 /49 | 12 | 13 | X | X | 10½ oz. | 13½ oz. | 0 | 0 |
| 7/ 6 /49 | 12 | 13 | X | X | 12½ oz. | 13½ oz. | 0 | 0 |
| 7/ 7 /49 | 12 | 13 | X | X | 12½ oz. | 12 oz. | 0 | 0 |
| 7/ 8 /49 | 12 | 13 | X | X | 10 oz. | 6 oz. | 0 | 4 |
| 7/ 9 /49 | 12 | 9 | X | X | 8 oz. | 5 oz. | 0 | 0 |
| 7/10/49 | 12 | 9 | X | X | 2 oz. | 2 oz. | 2 | 6 |
| 7/11/49 | 10 | 3 | X | X | 1 oz. | 4 oz. | 1 | 0 |
| 7/12/49 | 9 | 3 | X | X | 0 | 1 oz. | 5 | 2 |
| 7/13/49 | 4 | 1 | X | X | 0 | 0 | 3 | 1 |
| 7/14/49 | 1 | 0 | X | X | 0 | 0 | 1 | 0 |
| 7/15/49 | 0 | | | | | | | |
| Total | | | | | 56½ oz. | 55 oz. | | |

Total Compound No. 42 consumed 33.41 mg.

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(total number of rats used 453) housed in a common cage were employed with Compound No. 42 solutions as the sole source of water and also with such solutions exposed in the presence of their regular supply of fresh water. Concentrations of from .02 to .32 mg/ml. of Compound No. 42 were used and an over-all mortality of 99% resulted. The normal food ration was available to the rats at all times.

Rats appear to detect and discriminate against Compound No. 42 or its sodium salt in water solutions at much lower levels than was found to be the case when this substance was admixed with food materials. It can be seen from Tables II, III, and IV that at a concentration above .02 mg/ml. considerably more fresh water was taken than the Compound No. 42 solutions, whereas at the .02 mg/ml. level about equal quantities were consumed.

From these experiments, the level of .075 mg. of Compound No. 42 per milliliter of water was chosen for field tests. In a preliminary trial, five house mice from a group of five succumbed when a solution carrying .075 mg/ml. of Compound No. 42 was present as the only drinking water available.

The earlier field trials were made possible through the cooperation of B. F. Lowery and H. F. Sessums, Assistant District Agents, Branch of Predator and Rodent Control, stationed at Denver, Colorado, and State College, Mississippi, respectively.

As pointed out, a semi-permanent bait containing 20% ground fresh pork fat and 0.1% Compound No. 42 was chosen for initial field work.

### *Field Exposures*

THE first field exposures were made in southern Colorado on March 2 and 3, 1949. These bait placements were of the "feeding station" type and the principal objective was to determine whether Compound No. 42 in bait would be taken in sufficient amount and with the necessary regularity to cause death in a population of wild rats. No effort was made to compare its efficiency with that of other control agents. Dead rats and mice were picked up on the inspection made on March 11. Upon autopsy, it was revealed that internal hemorrhage had been the cause of death, and it was concluded that Compound No. 42 bait had been fed upon repeatedly enough to cause death in wild Norway rats and house mice.

In an exposure to test its possibilities in the control of house mice, a grocery warehouse near Denver was baited on March 16, 1949 with 0.1 per cent Compound No. 42 held on the surface of midget milo maize by starch paste. By March 29 the troublesome damage to sacked goods such as flour, beans, etc., had stopped and several dead mice had been found during the interval March 16-March 29. Following this eleven premises were baited with 0.1 per cent Compound No. 42 baits for the control of rats and mice. These included restaurants, grocery stores and food storage establishments. Control, at least to the point of stopping damage encountered prior to the baitings was achieved in nine of the 11 placements. The two partial failures were situations involving mice and no attempt was made to determine the cause other than to note that the baits were poorly taken.

**TABLE III**

| Date | No. of Male & Female Rats | | Type of water given: No. 42 Sol. .04 mg/ml. ad libitum (Sodium salt) | Type of water given: Tap Water ad libitum | Water intake: 42 Sol. | Water intake: Tap water | No. of Deaths | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | | | | | Male | Female |
| 7/ 5 /49 | 12 | 13 | X | X | 12 oz. | 17½ oz. | 0 | 0 |
| 7/ 6 /49 | 12 | 13 | X | X | 14½ oz. | 15 oz. | 0 | 0 |
| 7/ 7 /49 | 12 | 13 | X | X | 6 oz. | 11½ oz. | 0 | 2 |
| 7/ 8 /49 | 12 | 11 | X | X | 6 oz. | 7 oz. | 1 | 3 |
| 7/ 9 /49 | 11 | 8 | X | X | 2 oz. | 3 oz. | 1 | 1 |
| 7/10/49 | 10 | 7 | X | X | 2 oz. | 2 oz. | 7 | 6 |
| 7/11/49 | 3 | 1 | X | X | 2 oz. | 3 oz. | 1 | 1 |
| 7/12/49 | 2 | 0 | X | X | 0 oz. | 0 oz. | 1 | 0 |
| 7/13/49 | 1 | 0 | X | X | 0 | 2 oz. | 0 | 0 |
| 7/14/49 | 1 | 0 | X | X | 0 | 0 | 1 | 0 |
| 7/15/49 | 0 | | | | | | | |
| Total | | | | | 44½ oz. | 61 oz. | | |

Total Compound No. 42 consumed 52.63 mg.

Between May 13 and July 5, 1949, H. F. Sessums of the Fish and Wildlife Service made 10 exposures in the vicinity of State College, Mississippi, seven employing 0.1 per cent Compound No. 42 food baits and three using .075 mg/ml. water-alcohol solutions of the acid form of Compound No. 42. The observations made with respect to these placements were recorded in detail. He found no hesitation on the part of Norway rats to partake of food containing Compound No. 42 nor of fresh solutions containing the drug. Rats were observed under the influence of Compound No. 42 trying to feed at stations even though they were too weak to walk. This circumstance has often been observed in laboratory experiments. Mr. Sessums found that rats did not feed heavily upon either the water or food baits until the second or third night of exposure. Again this observation coincides with that usually recorded in voluntary feeding experiments conducted in the laboratory.

A case history of a premises treated by Mr. Sessums was as follows:

This place was baited May 13, 1949 and consisted of a corn crib one-half full of corn, a shop, tractor shed and supplies and farm implement shed and supplies. These places were heavily infested with rats. Seventeen (17) live rats were counted at 11 a.m., when pecan crumb baits containing 0.1 per cent Compound No. 42 were put out. Eleven bait stations were placed as follows: three under corn crib, two in shop, two in tractor shed and four in farm implement shop. Approximately eight pounds of bait were used during the test.

On May 16 this place was inspected and bait added to three stations. The activities of rats were observed and only seven rats were seen—four were feeding on one bait station and one on another.

On May 17 bait stations were inspected and rebaited. All except three indicated heavy feeding. One rat was found dead and less activity was observed.

On May 20 heavy feeding was noted on all stations except three under the corn crib. Fresh bait was added and five rats were found dead. Green flies were numerous at burrow openings and under lumber.

May 23—upon inspection 17 dead rats were counted and bait was added to four stations. Activity was greatly diminished.

(*Turn to Page* 147)

**TABLE IV**

| Date | No. of Male & Female Rats: Male | No. of Male & Female Rats: Female | Type of water given: No. 42 Sol. .08 mg/ml. ad libitum (Sodium salt) | Type of water given: Tap Water ad libitum(x) | Water intake: 42 Sol. | Water intake: Tap water | No. of Deaths: Male | No. of Deaths: Female |
|---|---|---|---|---|---|---|---|---|
| 8/25/49 | 13 | 12 | X | X | 12 oz. | 17 oz. | 0 | 0 |
| 8/26/49 | 13 | 12 | X | X | 9 oz. | 25 oz. | 0 | 0 |
| 8/27/49 | 13 | 12 | X | X | 8 oz. | 13 oz. | 0 | 0 |
| 8/28/49 | 13 | 12 | X | X | 12 oz. | 12 oz. | 0 | 4 |
| 8/29/49 | 13 | 8 | X | X | 1 oz. | 3 oz. | 3 | 1 |
| 8/30/49 | 10 | 7 | X | X | 2 oz. | 4 oz. | 3 | 3 |
| 8/31/49 | 7 | 4 | X | X | 0 oz. | 2 oz. | 6 | 2 |
| 9/ 1 /49 | 1 | 2 | X | X | 0 oz. | 0 oz. | 1 | 2 |
| 9/ 2 /49 | 0 | 0 | | | | | | |
| Total | | | | | 44 oz. | 76 oz. | | |

Total Compound No. 42 consumed 104.08 mg.

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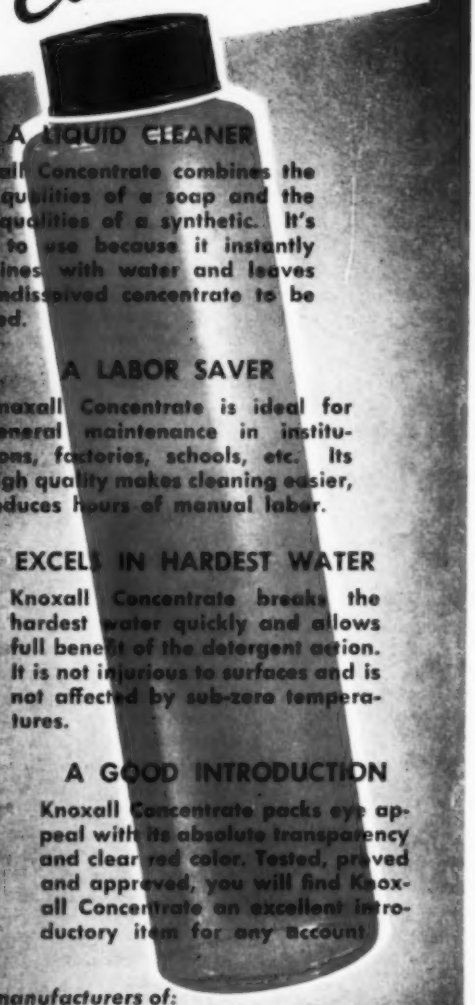

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## Soap Assn. Meets...

(*From Page* 40)

rine consuming industries and to present papers at these meetings. In addition it is planned to distribute and promote booklets in technical and trade journals in which advertising is not placed. The ACS monograph will be publicized widely to promote its sale.

Elaborating earlier remarks on the glycerine situation, N. N. Dalton pointed out that increasing manufacture and use of synthetic detergents will reduce the potential output of glycerine as a soap by-product. However, glycerine stocks have increased and were greater at the end of 1949 than a year earlier. There will be enough for all uses, Dr. Dalton stated. He also pointed out that a number of patents relating to glycerine have been issued to the Glycerine Division and are now offered for sale. In commenting on the forthcoming ACS monograph, Dr. Dalton said that it is expected that the monograph will be useful as a reference work for the next 15 to 20 years. The last one was issued in 1928 by James W. Laurie. As most of the information is now in hand for writing, the work should be available shortly, Dr. Dalton stated.

The washable cotton fashion show, featuring Miss Elizabeth McGee of Spartanburg, South Carolina, 1950 "Maid of Cotton," concluded the activities of the first afternoon of the meeting. Another social event, the reception, sponsored by *This Week* magazine, was held during the early evening of Jan. 25, and concluded the day's program.

### *Fats and Oils Outlook*

THE second day's activities began with a "Hunt Breakfast" in the Oak Room, for which *True Story* magazine was host. The program for the morning session opened with a discussion of the world "Fats and Oils Outlook for 1950" by J. C. A. Faure, director of purchases for Unilever, Ltd., London. E. W. Wilson of Armour & Co., presided at the session. In reviewing the world fats and oils situation, Mr. Faure declared that "there is still a severe shortage of fats and oils." He added that even if the United States "were able to export a net balance two or three times as high as in 1949, the rest of the world would still be short of her pre-war requirements, and very short if we calculate per capita needs—in other words, if we take into account the great increase in world population." Mr. Faure then went on to summarize the situation as follows:

"What has gone wrong with the world fats and oils market: why are there surpluses in one area and shortages in another: why does the same commodity command a very high price in one region and a very low cost in another? You may have concluded that this is all due to the dollar shortage. This is partly true, but there are also other reasons for the dislocation of international commerce. There are shortages of other currencies—Belgian and Swiss francs, Canadian dollars and Portuguese escudos are all hard, and even sterling and other soft currencies are very short in different parts of the world. The currency problem is by no means the only cause of the trouble. Centralized buying and selling by Governments and bilateral trading are also largely responsible.

**Reprints of Proceedings**

**All of the papers presented at the recent 23rd annual meeting of the Association of American Soap & Glycerine Producers, Inc., are being mimeographed and bound in book form and will be available for distribution shortly, it was announced early in February by Malcolm Miller, assistant manager of the Association.**

"Before the war all sources of supply throughout the world were open to any country able and willing to pay the price. Export prohibitions were almost non-existent, there were no currency restrictions and no bilateral trade agreements. Today business is canalized into deep channels. To cite you two illustrations—Nigeria now delivers all its peanuts, palm kernels and palm oil to the United Kingdom—all the French West African peanuts go to France, and so on.

"*United Kingdom*: Wartime rationing system and organization of control still operates today almost without change. Ministry of Food sole buyers and importers of raw materials as well as distributors to appointed soap factories who pay for the raw materials at a Ministry of Food price and sell to the consumer at a Ministry of Food price. Internal supply has greatly improved.

"*Holland*: Rationing in Holland has been abandoned, but all purchases of fats and oilseeds are still strictly controlled by the Dutch Government. Before the war Holland had considerable export business and during the last two years this business has been reviving. *Supply*: Indonesia supplies nearly two-thirds of the total gross imports, 23 per cent comes from the U. S. A. and 10 per cent from the British Empire.

"*Belgium*: Belgium is free from controls except that currency permits have to be obtained for overseas purchases, but these are readily granted even for the United States dollars. There is no rationing and trade and industry are free to buy their own requirements.

"*Scandinavia and Switzerland*: Switzerland and the Scandinavian countries are back to pre-war levels.

"*France*: France is recovering slowly to her pre-war level.

"*Western Germany*: The rapid improvement in Germany can be attributed to domestic production, liberal help from the U. S. A., and the greatly increased merchandise exports from Germany to pay for imports.

"*Western European Production*: European domestic production in 1949 was still 700,000 tons below pre-war, but for 1950 I expect the deficit to be only about 270,000 tons. Improvement is to be attributed mostly to olive oil, but also in part to butter and lard. Olive oil is not a commodity which enters very much into international commerce. It is very largly a crop which is produced and consumed in the producing country.

"*World Exports*: (1) There is still a severe world shortage of fats and oils. (2) The lack of purchasing power throughout the world will restrict consumption levels of fats to something below pre-war levels for a considerable time.

"*American Contribution*: The world has been aided enormously by American production in recent years. In 1935/1939 the United States were net importers on average of about 850,000 tons of fats and oils. This year I expect the United States to be net exporter of something like 300,000 tons. This means that as a result of the amazing achievement here the rest of the world is better off to the extent of 1,150,000 tons.

"*Price Levels*: If there should be any doubt about the shortage of fats and oils outside America, price levels tell their own story. 1938 sterling prices of a few of the principal commodities compared with today were:—

| *£ Per Ton* | 1938 | 1949 |
|---|---|---|
| Straits Copra | 12 | 79 |
| Peanuts | 12½ | 62 |
| Whale Oil | 12½ | 85 |
| Tallow | 21 | 80 |
| N.E.D. Palm Oil | 15 | 100 |

"*Devaluation*: Devaluation has had no effect on sterling oils and fats. The dollar and hard currency countries have all the supplies of fats and oils that they require and there is no need for them to buy in the sterling area where prices are higher than in dollar areas.

"*Synthetic Detergents*: It was

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not my intention, and is not strictly part of my address, to deal with synthetic detergents but I do not want to pass over this important subject completely. The great contribution which the United States is able to make to the rest of the world is to a large extent due to the development of synthetic detergents. In Germany, soapmakers are not at present permitted to use animal or vegetable oils or fatty acids for the manufacture of soap powders. Synthetic detergents must, for the time being, take the place of soap powders. If the restrictions should be removed at an early date the demand from the German soap-manufacturers for fatty acids for soap powder could be very considerable. In the United Kingdom the manufacture of synthetic detergents is also making good progress, but as soap is still rationed there and the full ration is taken up, the synthetic detergents supplement the present supply of soap and do not replace it. In other countries on the Continent, Holland and France, progress is also being made in the synthetic field but the United States are by far the largest producers of synthetic soaps."

The domestic fats and oils outlook for the coming year was the subject of the next speaker, Charles E. Lund, chief, Fats and Oils Section, Office of International Trade, Department of Commerce. He pointed out that although there may be shortages of some types, the prospects are that supplies of fats and oils in 1950 will be more than adequate to meet anticipated needs. In reviewing the fats and oils market in recent years, Mr. Lund remarked that while formerly we imported oils to make up a tallow deficit, now, with the advent of synthetic detergents, and because of greatly expanded production of tallow (2¼ billion pounds in the current crop year) stocks of tallow are piling up. ECA exports have helped, but stocks are still at the 300 to 350 million pound level.

Although exports of copra and coconut oil from the Philippines last year were somewhat lower than in 1948, shipments to the U. S. were larger, according to Mr. Lund, who stated that 70 per cent of the total came to the U. S. compared with 62 per cent in the previous year and 81½ per cent of the smaller total in the years 1935-39. "Our imports in 1949, which were about at the prewar rate of 700 million pounds, oil equivalent basis, increased slightly over 1948," according to the speaker. Increasing receipts in recent months have been accompanied by higher consumption of coconut oil, the second most important soap ingredient, and by an improved stock position," Mr. Lund said.

"The very favorable supplies last season enabled a change in our foreign trade from a prewar 1½ billion pound net import position to a 950 million pound net export basis. The improved supply position warranted larger export allocations as our 1948 crop moved to market, and all quantitive limitations were lifted with the removal of export controls in February, 1949.

"In the current season, with lower net exports in prospect, total new supplies from domestic materials of 12.1 billion pounds would enable a per capita consumption of 68 pounds (at content), one pound more than in 1948-49, and still leave 1½ billion pounds for net exports or increases in stocks. Assuming that net exports should reach last year's record 950 million pounds, there would be a potential stock increase at the end of the season of 550 million pounds of primary fats and oils. A return to prewar consumption levels of 70 million pounds per capita for our larger population would lower the stock increase to 250 million pounds."

Trends in the field of synthetic detergents were reviewed in a paper bearing the title, "Petroleum Base Synthetic Detergents—Today and Tomorrow" by A. B. Hershberger, manager, Chemical Products Section, Atlantic Refining Co., Philadelphia. In his talk, Mr. Hershberger reviewed some of the early history of the synthetics and their applications. He stated that of all groups, the alkyl aryl sulfonates are the most important single type and "approximately 50 per cent of all detergents produced are of this type." He said there is a similar trend toward alkyl aryls in European detergent production. The growth of detergents in the household market was outlined and it was shown that they have grown from two per cent in 1945 to about 21 per cent of total soap and synthetic sales currently, with growth largely confined to the package type product. Liquid detergents, although popular in Europe, have met with limited success in the U. S., but the speaker predicted that "liquid cleansers made from detergents will yet become a major factor." He also stated that "the necessity of special compounding for heavy duty work has led most manufacturers to market two products usually classified as light duty and heavy duty products." Mr. Hershberger pointed out that "Other household products of importance in which synthetic detergents have made progress include scouring powders, bar soaps and liquid cleansers. During the past two years," he said, "many scouring powders have been reformulated using petroleum base synthetic detergents." In conclusion he pointed out that "the use of synthetics for industrial purposes is much older and has shown more of a tendency to level out. On the other hand, price reductions brought about by the household volume should open up new opportunities. . . . It is noticeable that spray dried detergents, because of the greater choice of densities, have offered strong competition to the older drum dried products."

### Joyce Kern to AASGP

**Joyce C. Kern, formerly of the staff of Ames & Norr, New York public relations firm that for many years handled publicity and promotion for the Association of American Soap & Glycerine Producers, Inc., has recently joined the staff of the Soap Association. She is also associated with G. M. Basford, Inc., to handle public relations for the Glycerine Division of the Association.**

### *Synthetic Detergent Outlook*

"A POST-WAR Look at Synthetic Detergents" was the title of the next paper, presented by Dr. Daniel H. Terry, technical service manager of Antara Products Division of General Aniline and Film Corp., New York. In briefly recalling some of the early history of soaps and synthetic detergents and giving figures on current detergent production, Dr. Terry outlined the four successive stages of detergency. He described the three classes of detergents, pointing out that the anionics are the predominant type used. Dr. Terry also mentioned a recent development: con-

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verting liquid non-ionic detergents to solid form by spray drying or drum drying with specific additives. The speaker declared that soap companies "fully recognize the value of the synthetic detergents in place of, or in combination with, soap, especially in areas where the water is not soft. In such areas they have exploited the superior cleaning and rinsing properties of synthetic detergents especially for dishwashing, clothes washing and shampoos."

He referred to the use of builders or extenders to improve synthetics, but warned against going too far with building synthetics, "especially when they are so heavily built that they are, in effect, disguised alkalies and as such are harsh and irritating to the skin." Another factor he called attention to is that many synthetic products are derived from petroleum and with this base ingredient are likely to develop improved properties and even lower costs. "If so, Dr. Terry indicated, "it will gradually reduce requirements for soap to such a degree that the price and demand for fats for soap manufacture will diminish. Even though this would improve the competitive position of soap as compared with synthetic detergents, soap still has its shortcomings, particularly in hard water, which the synthetics in the main have overcome. There are two courses of action that a soap company could well consider to be prepared to obtain the maximum advantage of such low fat prices. The first requires the development of a top flight detergent made chiefly from fat instead of petroleum base. The second is to make soap more competitive with straight built synthetic detergents. Soap manufacturers may well look to building their soaps more extensively with synthetics and other extenders. By so doing the resultant products will incorporate the advantages of soap with the advantages of synthetics. If only from the standpoint of increasing the efficiency of soap in hard water areas, the move will be profitable."

The concluding speaker at the morning session January 26 was Dr. W. A. Ault, director, fats and oils division, U.S.D.A., Regional Research Laboratory, Philadelphia, who discussed the "Progress of Government Research on Animal Fats." The possibility of "making satisfactory and competitive detergents from tallow or its constituent acids" and the possibility of bettering the "acceptance of soaps by improving them for specific uses as has been done in the case of Rubber Reserve soaps" are two phases of the research program on utilization of animal fats and oils being undertaken by the Eastern Regional Research Laboratory, it was pointed out by Dr. Ault.

"Packer's Charm Soap," a new deodorant soap made by Packers Tar Soap, Inc., Mystic, Conn., was announced recently. The packaging for the new soap is by William W. Fitshugh, Inc., Brooklyn, N. Y.

He told of the work done by the laboratory in investigating tallow and tallow soaps as part of the comprehensive research program of the Rubber Reserve Company. This work succeeded, according to Dr. Ault, in "demonstrating that the polyunsaturated acid content of the tallow soaps was responsible for difficulty encountered in synthetic rubber production as a result of the fluctuating rate of polymerization." "As a remedy," Dr. Ault stated, "it was suggested that the tallow be subjected to mild selective hydrogenation before it is used for the preparation of such soap. The treatment has since been used for the preparation of all soap being used in rubber polymerization." Another contribution of the research laboratory described by Dr. Ault is the "spectrophotometric method of analysis developed by (the Eastern Regional Research Laboratory) . . . (for) detecting polyunsaturated constituents of tallow with the required degree of precision." Dr. Ault also explained the background of the establishment of the animal fats and oils studies at the research laboratory and its organizational set-up.

The group luncheon on January 26 heard U. S. Agriculture Secretary Charles F. Brannan make a plea to industry to aid in the national acceptance of the principle of price support for farm products produced by 27,500,000 farm people.

Dr. Leo Wolman of Columbia University, speaking on "Industrial Relations" at the afternoon session, January 26, warned that collective bargaining practices required reexamination in the light of the size to which labor groups have grown. He compared these with the size of industrial management units with which contracts were under discussion. He was particularly critical of industry-wide bargaining.

The Specialty Soap Division meeting, which was presided over by J. L. Brenn of Huntington Laboratories, Huntington, Ind., opened with a discussion of premiums as a substitute for cash in sales contests. Gordon Nerein of Belnap & Thompson, Inc., Chicago, gave the presentation.

"Building Maintenance," with specific reference to schools, was the topic of Dr. H. H. Linn, professor of education, Teachers College, Columbia University. He pointed out that with

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much building of new schools in the U. S. either contemplated or in work, a greatly expanded market for cleaning materials is developing. He warned, however, that in some cases both personal cleanliness and building maintenance might be neglected. Dr. Linn reminded that in New York City, for example, the vast majority of schools have no soap or towels for pupils. He also declared that he would like to see better "custodians," a term he said he preferred to janitor. There are over 100,000 school custodians in the U. S., the speaker said. On the use of synthetic detergents, Dr. Linn commented that he did not believe that one detergent can be equally effective for all types of cleaning jobs. He said he did not think synthetic detergents were producing the desired results, but that their use will be expanded. Some materials are used in too strong solutions, he said, since many users believe that if a little material is good a whole lot is better. He then went on to voice his opinion of various cleaning materials, equipment and methods for specific work.

On the question of product liability, Albert Woodruff Gray, pointed out that the proposed consumer code has aroused apprehension in the soap industry because of its breadth of coverage.

A discussion of "Industrial Application of Soaps and Detergents" a debate between John W. McCutcheon and Dr. Foster Dee Snell, both independent New York consultants, was the feature of the Industrial Soap Division meeting. T. J. Wrocklage of Procter & Gamble Co., presided. Ira P. MacNair, publisher of *Soap & Sanitary Chemicals*, acted as moderator and introduced the two participants. The entire debate and rebuttals are published beginning on page 44 of this issue.

The final feature of the meeting was a talk by E. Scott Pattison of G. M. Basford Co., New York, entitled "Five Tools to Aid in Industrial Advertising." The five "tools" discussed by Mr. Pattison include: "Know Your Buying Habits—Market by Market"; "Mechanize Your Selling"; "Concentrate on a Bellwether"; "Close-Couple Your Selling Program," and "Expect Response and Use It."

A reception and cocktail party preceded the annual banquet, which was presided over by Neil H. Melroy of Procter & Gamble and newly elected president of the AASGP. Gen. Frank Howley, former U. S. Army Commander in Berlin, was the guest speaker, who took the place of Gen. Carlos P. Romulo, Philippine Ambassador to the United States and former president of the United Nation's General Assembly, who was ill. Gen. Howley described his personal experiences with Russians in Berlin.

# Cleaning Importance Stressed At First Plant Maintenance Show

**By James A. Nelson**

SUPPLIERS of soaps, detergents, disinfectants, waxes and other sanitary chemical specialties products stated that interest in the products displayed at their booths ran high among the better than 7,800 delegates attending the first Plant Maintenance Show, held in the Cleveland O., Public Auditorium, January 16-19. "We are reaching the maintenance man in the plant, at this show; he's the man who does the requisitioning for the sanitary supplies he'll need to carry out his job," one manufacturer stated.

Of the 115 companies displaying machines, products and services designed to reduce maintenance costs, there were more than twenty representatives attending the booths of manufacturers of sanitary chemicals. Among these were Huntington Laboratories, Huntington, Ind., which showed its "Safe-T-San" non-slip floor wax and a full line of soaps, detergents, etc. Plant superintendent, Thomas Annan, and central states sales representatives, Clare Bristol, William Cerney, and Joe Rarick were on hand. Huntington was also displaying the National Electric Hand Dryer, for which it has become a distributor.

"SBS-11 Safety Skin Cleanser" was promoted by Sugar Beet Products Co., Saginaw, Mich., for which vice president and sales manager R. S. Montague, Jr., John Strickland, of Detroit, Ken Zehnder, Mansfield, O., Len Reyner, Buffalo, and J. S. Mathie, Pittsburgh of the sales staff, were present.

F. H. Lee, sales manager of the Industrial-Aviation divisions of R. M. Hollingshead Corp., Camden, N. J., attended with his assistant W. L. Carolla, and field men, A. W. Schug, William H. Weiss, B. R. Yaffe, and Kurt Friday to answer questions at their booth showing "Whiz" industrial maintenance chemicals, including disinfectants, soaps, wax, a glass cleaner, etc.

Lightfoot-Schultz Co., New York, featured its line of powdered and liquid soaps and dispensers. Manning the booth were William Pemberton, of Pittsburgh, and representatives J. T. Kelly and E. J. Famiano of Cleveland.

Cleaning detergents were featured in a large display by Oakite Products, Inc., New York. Sales personnel present included M. L. Hahn of Cincinnati, Jack Timmons of Akron, O., and Robert Potter of Erie, Pa.

West Disinfecting Co., Long Island City, N. Y., was represented by William Flatow, assistant general sales manager, and E. H. Frawley and Kurt Rogasch of Cleveland were at the West booth exhibiting hand cleansers, towels, floor maintenance supplies and other sanitary products.

### *Barron Urges Machine Use*

"WAGE rates are now too high to permit coolie labor gangs or crude cleaning operations," J. Lloyd Barron, sanitary engineer, National Biscuit Co., New York, declared at the Jan. 17, afternoon conference held during the show. "One well-trained employe with a ma-

(*Turn to Page* 165)

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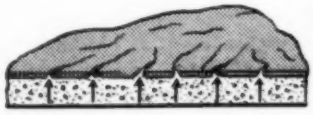

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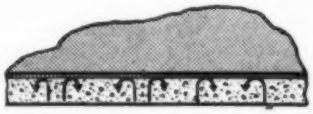

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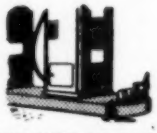

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## Testing Quaternaries

(*From Page* 129)

ducts of this type based on results of isolated, individual, or selected determinations without careful consideration of the limitations of the test with this type of product as indicated herein.

The common acceptance of high coefficient claims for these products appears to have resulted from failure to assign proper significance to the frequently encountered negative and indeterminate result by the method. The common tendency to discard this type of result as a probable error on the part of the operator in all probability, can be ascribed to a general lack of understanding or appreciation of the precision of the method itself. In defense of the method, then, it might be pointed out that all empirical test procedures will possess certain limitations and that the result secured by any method is only good if the analysis of and interpretation given it happen to be correct. From the results shown in Figures 2 and 3 for two commercial quaternary ammonium germicides, it seems clear that the occasional negative result by the phenol coefficient method cannot be disregarded in evaluating test results on these products by that method. On the other hand, the greatest weight which can be assigned to this type of result at this time is that it is probably indicative that the clear-cut test result secured at the same dilution is simply the result of chance.

In defense of those who have criticized the use of the phenol coefficient procedure for evaluating the germicidal activity of quaternary ammonium disinfectants and other germicides, it should be acknowledged that 1, 2, 3, or 4 determinations by the method provide a most uncertain index to true germicidal values when the probability curve of subculture survivors slants acutely over such a wide range of concentration levels as has been demonstrated for the two quaternary ammonium germicides studied. The increased interest in other selected empirical methods that might give more precise results therefore, is understandable. Failure of such tests to give this more precise result merely emphasizes the complications involved in testing commercial germicides and the probability that any one test can ever be taken as a safe criterion with products of all types.

In considering the data reported herein, it should be noted that the objective was to determine comparatively the behavior of quaternary ammonium germicides 1 and 2, phenol, and a commercial cresylic acid soap emulsion germicide in the phenol coefficient procedure. The possibility that the subculture survivor probability curves shown for quaternary ammonium germicides 1 and 2, in Figures 2 and 3, respectively, might become more vertical and supply a more clear-cut end point with a prolonged exposure period has not been thoroughly explored. Attention should also be called to the fact that the activity of the two quaternary ammonium products studied in reducing the viable counts to low levels over the wide range of activity indicated by the subculture survivor probability curves has not been explored, but may be great enough to make them valuable sanitizing agents at levels considerably in excess of the relatively lower levels indicated as necessary for reliable disinfection.

One might then logically ask the two questions: What are the levels necessary for reliable disinfection with these products? How can these levels be conveniently confirmed in the laboratory? The results secured with quaternary ammonium germicides 1 and 2 are not all conclusive on either point. They are definite enough so that it can be said that the present levels indicated as safe by the manufacturer's phenol coefficient claims are too high and that the phenol coefficient procedure provides a most uncertain index for arriving at such a level. For the present at least, it would appear necessary to employ simulated use tests in arriving at accurate safe disinfecting levels with these products. Since this type of test has not been shown to be more precise than the phenol coefficient type test, final conclusions cannot be drawn on the result of single determinations, but must be based on replicate determinations. The number of replicates apparently should be 10 or more.

While the phenol coefficient values now claimed for these products may be justified on a mathematical basis, they cannot be justified as providing an accurate index to safe disinfecting dilutions. Thus, their continued use in labeling may well be considered as misleading and should be discouraged.

### Conclusion

In conclusion, it can be stated that phenol coefficient values claimed for many quaternary ammonium germicides appear to correspond to maximum values that can be justified mathematically on the basis of the probability of securing a single clear-cut confirmative test in any spot check made. These values cannot be shown to have true significance for determining the safe disinfecting use dilutions by the conventional method of calculations prescribed in the official A.O.A.C. procedure for commercial germicides.

The failure of phenol coefficient values to provide an accurate index to apparent safe disinfecting levels with these products appears to be due to a greater discrepancy between the mean germicidal levels found by the method and the absolute germicidal levels than exists with phenol and commonly encountered cresylic acid-soap emulsion germicides.

Common acceptance of the present high phenol coefficient claims appears to have resulted from failure to give proper weight to the occasional negative and indeterminate result in analyzing results commonly secured.

The more critical types of empirical tests studied, while providing a more accurate index to germicidal levels, could not be shown to provide more precise results than the phenol coefficient type of test; the degree of precision was on the contrary, found to be about the same in all methods studied for each individual product. This result emphasizes the difficulty in arriving at accurate, safe disinfecting use dilutions with the materials and points to the necessity for basing our final decisions in this respect on replicate tests and not on individual determinations.

## PROFIT SHARING

(*From Page* 49)

lieve, be sound in respect to the management's responsibilities toward its employees. It must likewise be sound in maintaining and improving the good will of the public. Such a plan, carefully applied, makes for a stronger, more stable organization, able more fully to exemplify a management that appreciates its basic responsibilities toward employees and to the public at large.

## Detergent Development

(*From Page* 43)

from the manufacture of paper pulp from pine wood by the sulfate process. The saponifiable portion of tall oil contains 40 to 45% resin acids with the remainder being fatty acids. Considerable purification of the raw material by distillation and solvent extraction is necessary to obtain a satisfactory product of acceptable odor.

Other sources of raw materials for soap making are the fatty acids produced by the oxidation of long chain petroleum hydrocarbons. Although the Germans obtained 100,000 tons annually from this source, the process has never been used appreciably in the United States largely because yields of suitable fatty acids are low, the mixture is difficult to purify satisfactorily, and it must compete with cheap natural fats. The product contains carboxyl groups attached at random along the hydrocarbon chain instead of just at the end as in naturally occurring fatty acids, resulting in soaps with poor detergent action. The Germans used a hydrocarbon mixture obtained from the hydrogenation of coal by the Bergius process or by the hydrogenation of carbon monoxide at high

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temperatures and pressures in the presence of a catalyst by the Fischer Tropsch process. This was oxidized first with potassium permanganate to give peroxides which catalyzed the subsequent oxidation by air in the presence of a manganese soap catalyst. (Part II will appear in the next issue.)

## Rodenticide WARF 42

(*From Page* 135)

May 26—Several more dead rats were found. Bait was added to one station—very little bait eaten at other stations—no live rats seen.

May 30—No bait added—practically all signs were inactive.

June 3—No signs of rats and no bait needed.

In reporting on the successful use of Dicumarol in rat control, O'Connor[1] first to use an anticoagulant in field trials against rats aptly points out the differences to be found in the application of anticoagulants for rat control as contrasted with the use of faster acting chemicals. He states that the recent trend of research on rodenticides has been toward the development of poisons capable of killing rapidly with small doses taken during the briefest possible time by the greatest number of individuals in a rat population. A compound having the above characteristics he feels is not the answer since, even with the practice of prebaiting and the use of the most virulent poisons, 100 per cent control is not often achieved. This, O'Connor believes is due to a varying number of a population ingesting sublethal doses and developing "bait shyness" which often persists even when different poisons and food baves are used against them. To avoid this circumstance he postulates that the ideal rat poison should have the following characteristics:

1. It must be effective when incorporated into baits in such small amounts that its presence is undetected.
2. No symptoms should be produced that the rat is likely to attribute to the food that he is eating, thus "bait shyness" and the necessity for prebaiting can be avoided.
3. Death should be sufficiently delayed to insure that all the rats have ingested a lethal dose and the manner of death should be such that surviving individuals will not become suspicious of its cause but continue to eat freely until they themselves expire.
4. The poison should be specific for rats—at least in the concentrations employed for rat control.

Compound No. 42 appears to fulfill the first three of the above conditions and when the final field concentration is arrived at, may fully or at least partially fulfill O'Connor's fourth requirement. Present research is being directed toward finding the lowest concentration of this substance that can be used in baits which will effectively control rats and mice.

**Summary**

1. Single doses of Compound No. 42, Dicumarol, or a combination of Compound No. 42 and 2 Pivalyl-1, 3-indanedione up to 500 mg/kg. did not kill an appreciable number of the experimental rats.
2. Compound No. 42, when given in multiple doses, was a more effective rat control agent than Dicumarol.
3. Compound No. 42, when given in multiple doses, was found to be a more effective rat killing agent than 2 Pivalyl-1, 3-indanedione presented in a similar manner.
4. The addition of 2 Pivalyl-1, 3-indanedione to Compound No. 42 baits did not shorten the reaction time of rats over that encountered when Compound No. 42 was used alone.
5. The multiple dose technique required for the employment of anticoagulant compounds as rat and mouse control agents is a practical field procedure.

## Synthetics Vs. Soap

(*From Page* 87)

etc. is highly impressive and its accuracy is not disputed here. Let it be pointed out, however, that the estimated industrial consumption of synthetics has grown from about 250 million pounds in 1946 to about 400 million pounds in 1949. If soap were such a superior agent as Dr. Snell would lead us to believe, then we must conclude that there are a lot of dunderheads among the purchasing agents of many industrial concerns. Again, it might be pointed out that some synthetics have exceptional wetting ability. "Tergitol", for example, just to name one trade product which comes to mind retains a very high wetting power in concentrations as low as 0.01%.

To conclude, therefore, if the men from Mars were to land today for the purpose of collecting data on detergents, I am fairly convinced that they would describe soap merely as one type of agent, cheap to make and serviceable under restricted conditions of use. It probably would be included just as another type among the dozen or so main classes of detergent materials available.

### New NSSA Floor Booklet

A second booklet, "Planning an Efficient Floor Program", recently has been announced by the National Sanitary Supply Association, Chicago. The first of the three of the series now in work or being issued was one devoted to window washing and floor sweeping. A third booklet, "Wet-Mopping and Machine Scrubbing" is to be made available shortly. The booklets are designed to train sales personnel and to help educate buyers and maintenance crews. Other booklets dealing with sanitation operations will be issued from time to time, according to Leo J. Kelly, executive vice-president of the National Sanitary Supply Association.

### GM Sells Kinetic Interest

The sale of its interest in Kinetic Chemicals, Inc., Wilmington, Del., by General Motors Corp., Detroit, to E. I. du Pont de Nemours & Co., Wilmington, was announced recently. The sale price agreed upon was reported to be about $9,700,000. Kinetic was founded in 1930 by du Pont and General Motors jointly to manufacture "Freon" fluorinated hydrocarbon refrigerants.

### Penick Renews Chi. Lease

S. B. Penick & Co., New York, recently announced the completion of the renewal of a long term lease for the Chicago branch office and plant at 735 West Division St., which they have occupied for the past 10 years.

### John Shaw Retires

John S. Shaw, director of safety of Hercules Powder Co., Wilmington, Del., retired Jan. 1, after having been with Hercules since 1913. For the previous seven years he was with the old du Pont company and with its dissolution was transferred to Hercules. He had been director of safety since 1941.

### New MM&R Rose for Para

A new low price rose perfuming material for para blocks was announced recently by Magnus, Mabee & Reynard, Inc., New York. Pound trial quantities are available at the 100 pound price for a limited time, according to the introductory letter issued on the new material, No. 102,449. The price ranges from $1.00 a pound in 100 pound lots to $1.45 in one pound lots.

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# TRADE NEWS

## Dorsett to Central Chem.

The appointment of R. R. Dorsett as a technical and sales representative of Central Chemical Corp., Hagerstown, Md., was announced recently by Sam Marshall, manager of the insecticide division. Mr. Dorsett, founder and president of Dorsett-Jones, Baltimore, is making his headquarters at Hagerstown. Prior to his association with Dorsett-Jones, he was with the Office of the Quartermaster General in a civilian capacity from 1939 to 1945. Earlier he had been with Calco Chemical Division of American Cyanamid Co., Bound Brook, N. J., and Rohm & Haas Co., Philadelphia.

## Lehn & Fink Building

An addition to its plant at Lincoln, Ill., for the production of "Lysol" disinfectant is now under construction, it was announced recently by Lehn & Fink Products Corp., Bloomfield, N. J. The new building, which will be located at the rear of the present plant, will be devoted mainly to the production of "Lysol," 60 per cent of which is to be produced there. At present the plant employs 200 people in manufacturing "Dorothy Gray" and "Tussy" toiletries and cosmetics.

## New Duties for Tingdale

Warren Tingdale, vice-president in charge of sales and advertising of Boyle-Midway, Inc., New York, has recently been named vice-president in charge of sales and advertising of American Home Foods, Inc., it was announced by Walter F. Silbersack, president of American Home Products Corp., New York. Sales forces of the two subsidiaries of American Home Products Corp. remain separate, but sales and advertising of both divisions are under Mr. Tingdale's direction.

Herbert E. Carnes was recently elected vice-president of American Home Products Corp., of which he has been treasurer since 1941 and a director since 1948. P. H. Hannum has been named treasurer and R. P. Greenlaw heads the tax department. Mr.

WARREN TINGDALE

Carnes has been with the firm since 1936 as head of the tax department. He was made controller in 1939. Walter E. Silbersack, president of American Home Products Corp., has also assumed the presidency of its subsidiary, American Home Foods, Inc., to succeed V. T. Norton, who has resigned.

## PEA Rodent Course

A course on rodent control, sponsored by the U. S. Public Health Service was begun at the Jan. 9 meeting of the Professional Exterminators' Association, held at the American Museum of Natural History, New York. Sheldon L. Lang, sanitary engineer, conducted the first part of the course, which will be divided into four separate sessions. The six-point program at the Jan. 9 meeting included: 1.) Introduction to rodents, their biology, habits, characteristics, etc.; 2.) Film Strip, "Recognition of Rat Signs"; 3.) Theory of rat control, over-all objective under various circumstances, relative merits of sanitation, rat proofing, etc.; 4.) Motion picture: "Keep 'Em Out"; 5.) The house mouse, rickettsial pox and its control; and 6.) Discussion of material presented.

### Decision Favors Velsicol

**The Supreme Court of Illinois on January 18, handed down its decision on the suit between Velsicol Corporation, Chicago, and Julius Hyman, head of the company bearing his name, in Denver, Colorado. The decision upholds a decree issued by the Superior Court of Cook County (Chicago), Illinois, on May 27, 1948, ordering the assignment of patent applications covering the insecticidal product, chlordane, to Velsicol Corporation. It also enjoined Dr. Hyman from using, revealing, or assigning these applications or any other process, formulas or products discovered by him or learned by him during his employment with Velsicol Corporation.**

**Spokesmen for Julius Hyman Company state that the decision is not final. The company has applied for a petition for rehearing, and the court is understood to have stayed its action pending its decision on the rehearing.**

**The original complaint was filed by Velsicol Corporation October 15, 1946, after Dr. Hyman had resigned from his position with Velsicol during the previous month and had established his own business in Denver.**

## A. A. Schrieber Joins MGK

Dr. Albert A. Schrieber has joined the staff of McLaughlin Gormley King Co., Minneapolis, to do research and development work on insecticides and other products, it was announced recently. Previously he had been with Van Dyk & Co., Belleville, N. J., when he invented the insecticide synergist "264." Dr. Schrieber has been connected with the American chemical industry for 15 years. He received most of his chemical education at Munich University and did research work for I. G. Farbenindustrie.

## Gothard in Hospital

N. J. Gothard of Sinclair Refining Co., East Chicago, Ind., and a past president of the National Association of Insecticide & Disinfectant Manufacturers, recently fractured both legs alighting from the platform of a railroad train at a suburban Chicago station while returning from Washington, D. C. He is recovering in Little Company of Mary Hospital, Evergreen Park, Ill., and is in room 720.

## Ladd of Isco Retires

E. T. Ladd, vice-president in charge of the Isco Chemical Division of Innis, Speiden & Co., Niagara Falls, N. Y., retired recently. He is continuing his association of more than 30 years with the firm in an advisory capacity.

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## Alwyn Canco Sales Mgr.

T. E. Alwyn, Atlantic Division manager of sales for American Can Co., New York, was recently ap-

T. F. ALWYN

pointed general manager of sales. He has been associated with the can manufacturing company for more than 25 years.

In his new post, Mr. Alwyn has direct supervision of the firm's sales activities in the United States, Canada and Hawaii. His headquarters are in New York. He attended Columbia University before joining the American Can sales organization in Brooklyn in 1924, and subsequently served in various sales capacities until 1932 when he became district sales manager in Philadelphia. In 1937, he was transferred to New York, following his appointment as a sales division manager. He became sales manager for the Atlantic Division 10 years later with responsibility for sales activities in the territory from Florida to Maine and west to Pittsburgh.

## Selig of Texas Meeting

The 25th annual sales convention of Selig Co. of Texas, Inc., was held in Dallas recently. Sales plans for 1950 were outlined at the four day meeting, according to Jules Hoffman, sales manager.

## Mrs. L. I. Doan Dies

Mrs. Leland I. Doan, wife of the president of Dow Chemical Co., Midland, Mich., died suddenly the evening of Jan. 21 in the Persian Room of the Plaza Hotel, New York, while having dinner with her husband. Mrs. Doan is the sister of the late Willard Dow, former president and son of the founder, who was killed in an airplane accident last fall. Mrs. Doan is survived by a brother, Alden Dow and a sister, Martha Dow.

## Columbia Booklet on Para

A 12-page booklet, "How to Use Columbia Paradichlorobenzene" was issued recently by the Columbia Chemical Division of Pittsburgh Plate Glass Co., Pittsburgh. Recommended practices for the control of household and agricultural pests through the application of paradichlorobenzene are covered. The use of the material as a deodorant in washrooms, etc. is also treated in the booklet..

## Deming in D. & O. Post

William S. Deming, formerly assistant export manager, was recently placed in charge of the foreign department of Dodge & Olcott, Inc., New York. Waldo J. Booth, vice-president and export manager, retired from the firm as of the first of the year. Mr. Deming has been with D. & O. since 1947, when he completed his war interrupted studies at Yale University, where he received a B.A. degree in international relations. Earlier he had attended Brown University for two years, after which he was in service as an aircraft carrier pilot on the U.S.S. *Essex* in the Pacific. He was in service from 1942 until Sept. 1945, when he resumed his studies at Yale.

WILLIAM S. DEMING

## Nay C. D. & C. A. President

. Walter R. Nay of Mallinckrodt Chemical Works, was recently elected president of the Chicago Drug

WALTER R. NAY

& Chemical Association. Other officers elected to serve in 1950 are: vice-president, Ralph Olson, S. B. Penick & Co., secretary, Mel Thompson, Wyandotte Chemicals Corp., and treasurer, William E. Phillips, Wm. E. Phillips, Inc.

## Attend Olympic Meeting

Harold Berliner of Hockwald Manufacturing Co., San Francisco and Roy E. Moore of Moore Brothers Co., New York, were delegates to the United States Olympic Committee meeting held in Washington, D. C., Jan. 7-9. Mr. Berliner represented the Pacific Coast Track and Field Association, while Mr. Moore presided over the National A.A.U. Gymnastic Committee meetings. Besides being chairman of this committee, Mr. Moore is also vice-president of the International Federation of Gymnastics.

## Sonneborn UJA Chairman

Rudolf G. Sonneborn, president of L. Sonneborn & Sons, New York, has been named recently as national campaign chairman for the 1950 United Jewish Appeal, which is attempting to raise $272,456,000 for relief work in Europe, Israel and elsewhere. Mr. Sonneborn is also serving as a member of the National Campaign Cabinet in his capacity as national campaign chairman.

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New West Disinfecting Co. plant at Cambridge, Mass., which replaces older headquarters at Commerce Wharf, Boston. New plant provides 18,000 square feet of office and warehouse space. Some manufacturing will be done at the plant, which is completely air conditioned. John B. Mahoney, New England manager, is in charge of the new plant.

### Ruml on Enterprise Bd.

Beardsley Ruml, formerly chairman of the board of R. H. Macy & Co., New York, and author of the "Pay-As-You-Go" tax plan, was recently elected to the board of Enterprise Paint Mfg. Co., Chicago, parent company of Federal Varnish Division.

### State Legislatures Meeting

State legislatures meeting in 1950 include the following: Kentucky, Mississippi, Rhode Island, Massachusetts, New York, South Carolina, New Jersey, Virginia, Georgia (to complete 1949 session), all in January; Maryland, Feb. 1, California (budget session) Mar. 6, and Louisiana, May 8. Mississippi is planning consideration of SB-57, a weights and measures act which requires that all commodities in package form be marked with net weight contents in terms of weight, measure or numerical count. The commissioner is authorized to permit reasonable variations and tolerances and exemptions for small packages. A pending Massachusetts bill (HB-119) provides for compulsory registration of trade marks.

Mississippi's State Senate also has before it a bill (SB 178) that provides for an appropriation of $175,000 for building a plant to make soaps, disinfectants and insecticides.

Two Kentucky bills (101 and 47) would provide for labeling with net weight containers of soap and ingredient statements, respectively. A Kentucky House Bill, 41, also covers weights and measures.

A Georgia bill (608) would require registration fees of $5 per product, with a maximum of $200. It also would require persons selling economic poisons to have a (free) dealer's regulatory license and an attorney in fact residing in Georgia for out-of-state concerns. The bill passed the House in Georgia and has been referred to the state's Senate Agricultural Committee.

### FDA Insecticide Hearing

The need for the use of insecticides in the production of fruits and vegetables to insure an adequate food supply was stressed in the early hearings by the Food and Drug Administration on tolerances for residues of economic poisons. Representatives of the U. S. D. A., including F. C. Bishopp and B. A. Porter, appeared at the hearings which began Jan. 17.

### PCO Purdue Conference

Recognition of insect damage, insect classification, rodent control, fabric insects ("The Pest of the Year"), food plant problems and fly control were discussed at the 14th annual Purdue Pest Control Conference held at Lafayette, Ind., Feb. 6-10.

A two-day conference on the control of insects and rodents as they relate to Public Health will be held at Purdue Mar. 15 and 16, according to Professor J. J. Davis, Chief in entomology at Purdue, who was chairman for the P.C.O. conference.

The National Pest Control Assn. is now located in new quarters in the Hudson Terminal Building, 30 Church St., New York.

### Ritchie Appraisal Service

A free evaluation of present packaging by nationally known industrial designer, Dave Chapman, was announced recently by W. C. Ritchie and Co., Chicago, in making its entry into the field of folding carton manufacture.

### DCAT Dinner Mar. 9

The annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will be held at the Waldorf-Astoria Hotel, New York, Thursday, Mar. 9.

### New Varley Sprayer

Distribution through the sanitary supply industry of the new "Handi-Sprayer" electric spraying unit for dispensing insecticides, disinfectants, sanitizing solutions, etc., was announced recently by James Varley & Sons, St. Louis. Sprayers come complete with a series of nozzles providing a full range of particle size sprays from coarse to very fine.

### NSSA Show Exhibitors

Approximately 115 firms are included in a partial list of exhibitors that will participate in the trade show and convention of the National Sanitary Supply Association, to be held in Chicago, May 7-10, at the Stevens Hotel, it was announced recently.

Executives, salesmen, New York department heads attend luncheon held at Hotel New Yorker during recent annual sales conference of Fritzsche Brothers, Inc., New York.

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I will strive to identify it with the best in professional perfumer service and square ethical dealing. If you are not satisfied with your current supplier of aromatics because of quality, price or technical service, I welcome your inquiry.

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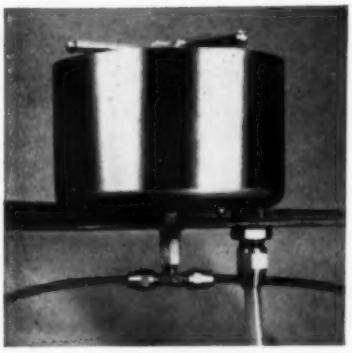
**FOR DISPENSING DETERGENTS TO WASH TANKS OF DISHWASHING MACHINES . . . ARE DOING A WONDERFUL JOB EVERYWHERE**



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Reorders follow easily from CLIFTON'S carefully cultivated deliveries

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Factories: 246-257 Front St., New York
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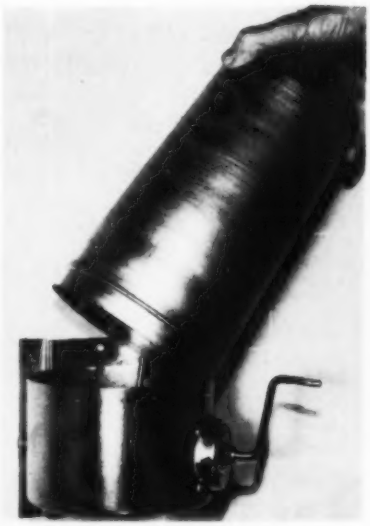
## New Paste Soap Dispenser

Announcement of a new type paste soap or cream dispenser was made recently by National Soap Dispenser Co., Los Angeles, Calif. The unit features a one-piece spun steel reservoir top that holds approximately eight pounds of cleaning material. The top is removed easily and filled, then inverted and replaced in the dispensing section, which holds about four pounds of paste cleaner. Because of the design of the container—being larger at the bottom than at the top—the product feeds downward without clinging to the sides, the maker says. Oscillating motion of the plate in the bottom feeds the product to the discharge worm. When the handle is down the gate is closed eliminating any possible loss of the product. The dispensers can be bought or leased at $5 each. National Soap Dispenser Co. does not make soap or cream, but will assist in the formulation of these products.



## Hynes Joins Schwab

James D. Hynes recently became associated with Schwab Brothers Corp., New York shellac importers and bleachers. He is making his headquarters in New York.

## Lakritz Aids Foundation

Dr. William Lakritz, president of Florasynth Laboratories, Inc., New York, and one of the directors of the Jerome D. Solomon Memorial Research Foundation, Chicago, recently participated in the opening ceremonies at the newly equipped laboratory and research library set up in Hektoen Institute by the foundation.

## F.T.C. Cites Midland Labs

Midland Laboratories, Dubuque, Ia., has been ordered by the Federal Trade Commission to stop claiming that its two food insecticides, "Mill-O-Cide" and "Mill-O-Cide Concentrates", will kill all insects in any stage of life. The F.T.C. also requires the firm to cease representing the products as non-toxic to humans and warm blooded animals without qualifying the statement by a conspicuous statement clearly indicating that the preparations must be used as directed. The Commission further ordered Midland to stop claims that the insecticides may be sprayed directly on food products without leaving an odor or taste; that pyrethrum is the only insecticide that is safe for use around food products, and that insects infesting a storeroom or any other enclosure within any particular time after it has been sprayed will be killed or repelled. The Federal Trade Commission said that all of these claims were false and misleading.

## H. E. Buc Dies at 69

Hyym Elias Buc, 69, organic chemist who was with Standard Oil Development Co., a research affiliate of Standard Oil Co. of New Jersey, Linden, N. J., until his retirement in 1943, and inventor of a mosquito repellent widely used by the armed forces during the war, died Jan. 21.

## New Liquid Floor Cleaner

Announcement of "DusTreat", a new liquid floor cleaner designed for use on sealed, waxed, or "natural" linoleum, wood, rubber tile, tile, terrazzo or marble, was made recently by Essential Chemicals Co., Milwaukee. The new floor cleaner can be applied by a mop to which a few ounces are added or as a spray. A spray of "DusTreat", applied at four-week intervals is said to give a protective coating over the pores of surface materials. "DusTreat" is distributed by janitor supply house, and is available under private brand label.

## Frank McNellis Dies

Frank McNellis, president since 1914 of Imperial Brass Manufacturing Co., Chicago soap dispenser firm, died Jan. 16 in his 70th year. With his father, Charles, he founded the firm in 1905.

Joseph D. Solomon (right), honorary president of Dr. Jerome D. Solomon Medical Research Foundation, shows some of equipment in new laboratory to (left to right) M. Z. Holland, Dr. J. Lester Wilkey, and Dr. Wm. Lakritz, President of Florasynth.

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**for Sprays, Liquid and Cake Soaps**
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**WATER SOLUBLE PERFUME OILS**

**for Sprays, Liquid Soap, Deodorants**
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$2.00 per pt. ALL ODORS $14.00 per gal.

**COLORODORS**

*(Combined Color and Perfume Oil)*

**for Paradichlorbenzene and Naphthalene**

Any Odor and Color Combination or Without Color

$2.50 and $5.00 per pt. $18.00 and $36.00 per gal.

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## Perfumers Elect Tombak

George J. Tombak of E. I. du Pont de Nemours & Co., New York, was elected president of the American

GEORGE J. TOMBAK

Society of Perfumers at its recent annual business meeting. Other officers chosen were: vice-president, Waldo Reis, van Ameringen-Haebler, Inc.; secretary, William H. Barlow, Orbis Products Corp.; treasurer, R. B. Houk, Dodge & Olcott, Inc., and, director for three years, Jacques A. Masson, Ph. Chaleyer, Inc.

## Hercules Men Abroad

Frank U. Rapp, supervisor of toxaphene sales for Hercules Powder Co., Wilmington, Del., left recently for his third trip to South America, where he will attempt to further the continuing development of overseas markets, which it is believed will help to establish on a year round basis for what in the U. S. is a seasonal business. Earlier, Richard J. Both of the Hercules toxaphene sales staff left for Africa to investigate the potentialities there of insect control. Mr. Rapp's trip to South America includes stops in Venezuela, Peru and Brazil. In all three countries he is checking on the progress of experiments with the use of toxaphene for various agricultural applications.

## Fly Control Discussed

Fly control is one of the major topics listed for discussion at the meeting of the North Central Branch of the American Association of Economic Entomologists, to be held Mar. 23 and 24 at Hotel President, Kansas City, Mo. The session on fly control will be held the afternoon of March 23. Covered will be such aspects of the problem as house and stable fly control, chemical control, factors other than chemicals affecting fly control and "resistant" flies. Also slated for discussion are horse flies; new biological facts and chemical control including repellents. Residue problems including a report of the hearings in Washington will also be considered at the meeting. "Insects for Livestock" is the title of a paper to be given by E. F. Knipling of the Bureau of Entomology and Plant Quarantine of the U.S.D.A., Washington.

## Bell on McCormick Board

Rear Admiral Frederick J. Bell, USN (Retired), deputy director of human relations for McCormick & Co., Baltimore, was recently elected to the board of directors. Rear Admiral Bell joined McCormick in Apr., 1949. At the time of his retirement from the Navy on Feb. 1, 1948, he was serving as director of enlisted personnel.

## Dickinson to U.S.I.

The appointment of Dr. Berton C. Dickinson to assist in the management of entomological work in the Baltimore research and development laboratories of U. S. Industrial Chemicals, Inc., New York, was announced early in February. He is a graduate of Connecticut State College and Ohio State University. Formerly he was with Sherwin-Williams Co.

BERTON C. DICKINSON

## Remensnyder Heyden Pres.

John P. Remensnyder has been elected president of Heyden Chemical Corp., New York, to succeed the late

JOHN P. REMENSNYDER

Bernard R. Armour, who died Dec. 1, it was announced following a meeting of the board on Jan. 19. Mr. Remensnyder has been with the firm since 1920. He was elected vice-president and a director in 1944 and has been directing sales since.

## Wash Machine Germicide

An automatic dispenser of a four per cent sodium hypochlorite solution especially designed for use in individual, public washing machines was announced recently by Murdock Distributors, Inc., Los Angeles. The "Stermiatic" solution bottle holds 16-ounces of solution, claimed to be enough for four complete washings before refilling. The solution is said to act as a germicide, not as a bleach. The dispensing unit can be installed on any model or make of laundry equipment in 10 minutes, according to the maker.

## Monsanto Insecticide Data

A technical bulletin containing 10 typical formulations of insecticide, fungicide and other related emulsiable concentrates was issued recently by Monsanto Chemical Co., St. Louis. The 12-page bulletin gives information about four new Monsanto emulsifiers and their uses, and also includes data on solvents and other ingredients. Procedures and equipment for the formulations are described as well.

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If your customers or prospects will have nothing but powdered hand cleaners in their washrooms, you can offer them a choice of 4 different Mione powders, and 3 different scrubbers. If they lean to liquid, you can't do better by them than sell them Mione Liquid Hand Soap.

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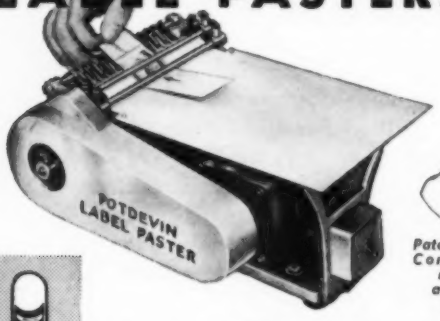
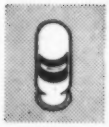


*Patented Glue Control Dial regulates amount of paste.*



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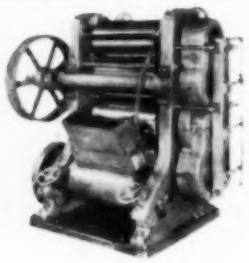

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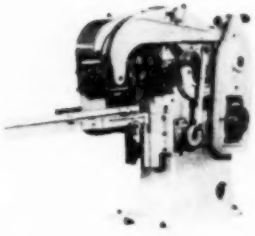

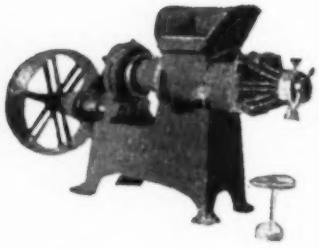

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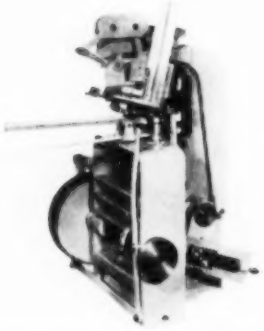

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**Salesman:** Wanted by leading manufacturer of soap, detergent and laundry specialties to cover five boroughs of New York City particularly to industrial and institutional trade. Excellent opportunity for man with knowledge and experience in field. Give references, salary and full details in letter to Box 127, c/o *Soap*.

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**Salesman Wanted** for prominent line of liquid soap dispensers for jobbing trade. Give full details in your first letter. Address Box 129, c/o *Soap*.

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**Chemical Engineer:** Organic Chemist, Sc.D., Ch.E., minor organic chemistry, doctorate research — photochemical chlorinations, 2 years industrial, development and research experience. Married, 27, desires development or research position, available immediately, location material. Address Box 130, c/o *Soap*.

**Soapmaker:** 20 years experience laundry soaps, powders, spray products, all phases production, run plant or any part. Wants position with soaper where experience and training will count. Or will spend part time revamping methods, modernizing plant, cutting costs, etc. Excellent record and references. For further details write to Box 131, c/o *Soap*.

**Soapmaker & Chemist:** Competent. Having long experience in making of all kinds of soaps and cleaning compounds. Experienced chemist and glycerine recovery. Can take full charge of production. Address Box 132, c/o *Soap*.

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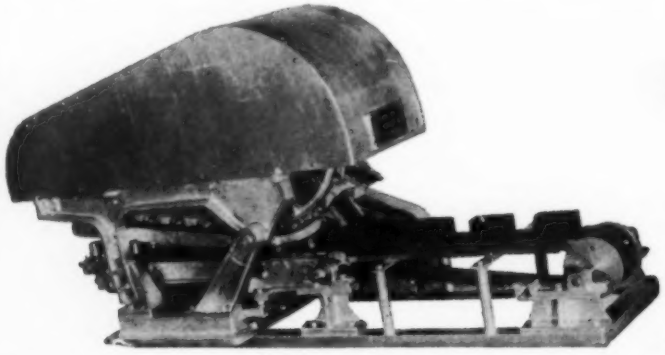

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**Wanted** — Manufacturer desires to buy used laboratory size soap mill and plodder. Give details and price in letter to Box 144, c/o *Soap*.

## Maintenance Show

(*From Page* 143)

chine can replace many unskilled laborers," he continued. To emphasize the point, Mr. Barron cited a problem at the University of Minnesota where cleaning time on three acres of garage space was reduced from 160 hours weekly to 10 hours and the cleaning crew reduced from eight men to one.

Defining the word, "sanitation," Mr. Barron said it includes the total environment of the worker on his job, encompassing the purity of the atmosphere, the comfort and cleanliness of dressing and sanitary conveniences, and the safety and quality of water and food supplies. "The maintenance of sanitation is most likely to break down into the general housekeeping, the care of toilet and locker facilities, pest control, waste disposal and supervision of cleaning labor," he pointed out.

### *Successful Wall Washing*

THE next talk, "I Want A Clean Place To Work," was given by William P. Sheehy, maintenance engineer, in conjunction with Thomas C. Richards, manager of elevator operation and maintenance, B. F. Goodrich Company, Akron, O. "Control of materials, equipment, methods, time and a thorough understanding of the basic operations are required to produce quality cleaning in an industrial plant," the speaker asserted. He said studies made at his company reveal wall washing from top to bottom is a faster method than any other they have tried. Streaking from excessive dripping can be eliminated by training men to use only pre-mixed solutions of a cleaner and to exercise care in the use of sponges. The worker, he continued, should clean no more than three feet square before rinsing. Cleaning too small an area is a waste of time and cleaning a larger area is unsafe and uncomfortable for the worker to rinse the wall. "An up and down motion followed by a side to side motion for walls leaves them in a cleaner condition," he advised. Lukewarm rinse water should be used and should be changed after cleaning about 50 square feet of wall surface, according to Mr. Sheehy.

### *Floor Care Hints*

BECAUSE of the heavy costs of floor replacement, study should be made as to the causes of floor deterioration and then preventive measures taken. Floors are the most expendable part of a building and require the most attention, Mr. Sheehy declared in prefacing the following report on Goodrich practices for floor up-keep:

(1) Concrete flooring in factories and some office areas presents little problem other than sweeping. Wherever possible, mechanical cleaning equipment is used in the plant, including a dry scrubber and scarifying machines to remove manufacturing waste built up on concrete flooring.

(2) Terazzo and tiling unless they are dirty are swept daily with wide cotton mops; if soiled they are scrubbed with a wet scrubbing machine suitable for the condition and size of the job. Very little hand scrubbing or mopping is done in the Goodrich plant other than in toilet areas, Mr. Sheehy said.

(3) For many of the older buildings which have wooden floors, not subjected to hard traffic, Goodrich has used an oily lay dust in sweeping until their floors carry a fairly high polish. Wooden floor areas requiring special treatment due to abnormal traffic or heavy type of operation may be protected by giving them two or three coats of penetrating seal or gym finish and then waxing.

(4) Asphalt, rubber and "Koroseal" floor tiling require the same type of preparation, namely the use of no-buffing water emulsion type of wax. "Rubber and 'Koro-seal' type flooring require two coats but as asphalt tile is not a highly resilient type of floor carrying a heavy body of wax on the surface is recommended; thus the original application should be made with three coats rather than two, a procedure which will increase the resilience and reduce slip hazards."

### *Floor Maintenance "Don'ts"*

HERE are a few "don'ts" included in the Sheehy-Richards report relative to improving floor maintenance work:

1. Don't apply wax in a heavy coat. A thin, even coat does the best job.
2. Don't use an oily sweeping compound or mop. Wax is smooth and dry, while oil leaves a sticky finish. The use of oil defeats the purpose of a wax finish.
3. Don't polish either traffic or no-buff waxes until thoroughly dry (20 to 30 minutes after applying in most cases).
4. Don't let the wax film wear through in heavy traffic spots. Touch up these spots before the wax is worn away to protect your flooring.
5. Don't allow wax to "pile up" in light traffic areas around the edges of the room and under furniture, etc. Remove these accumulations when they occur with an approved and tested floor cleaner. Then rewax.
6. Don't use strong highly alkaline cleaners or powders on your floors.
7. Don't use traffic wax or paste wax on rubber or asphalt tile.

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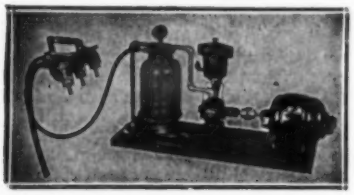

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*Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.*

*Doff Our Sombrero....*

TO DU PONT'S recent industrial advertising survey,—along with **Printers' Ink** and many others deeply interested in this subject,—we doff our sombrero! Du Pont went out to find the true facts about industrial advertising,—and found them. In brief, for selling **industrial supplies and equipment,** business and trade papers get the nod. This is something which we have believed for thirty years,—but Du Pont really proves it.

Industrial publications for industrial advertising! And if the industry happens to be in the field of soap and detergent products, insecticides, floor products, disinfectants, polishes, and allied chemical specialties, we suggest looking into the advertising coverage of

**SOAP *and Sanitary Chemicals***

**254 WEST 31st STREET NEW YORK**

## TALE ENDS

BEST ever! That was the consensus on the annual meeting of the Association of American Soap & Glycerine Producers held Jan. 25-26. Best attended, most enthusiastic meeting of the American soap industry in history. We doff our sombrero to Roy Peet, Malcolm Miller, Frank Luther, and the rest of the AASGP gang who staged this excellent meeting!

• • •

Small soapers, big soapers, fat ones, thin ones,—they all were there at the AASGP gathering. The annual banquet was a glittering array indeed. Sinking soap prices were forgotten for the time being. General Romulo, Philippines' No. 1 orator and U.N. prez, was sick in bed. But General Howley filled his spot as banquet speaker and couldn't have been better.

• • •

Coconuts will send Michael Udo Akpan to Notre Dame University. He is a West African native whose Nigerian tribal council has donated the proceeds of one month's coconut collections to send Mike thru college so that he may return to Nigeria as a teacher. Old N.D. has a lot of scholarships on her list, but we'll give six-two-and-even this is the first Coconut Scholarship in the annals of South Bend.

• • •

Charles Homan, peppy veep in charge of sales for Dodge & Olcott who completed 43½ years with D&O last Jan. 9 at exactly 8 A.M., according to C.H., recently admitted that he has his clothes made by the same tailor as the Duke of Windsor, one Harris over on 58th St., N. Y. So, the next time Charley shows up, don't miss the cut of his jib!

• • •

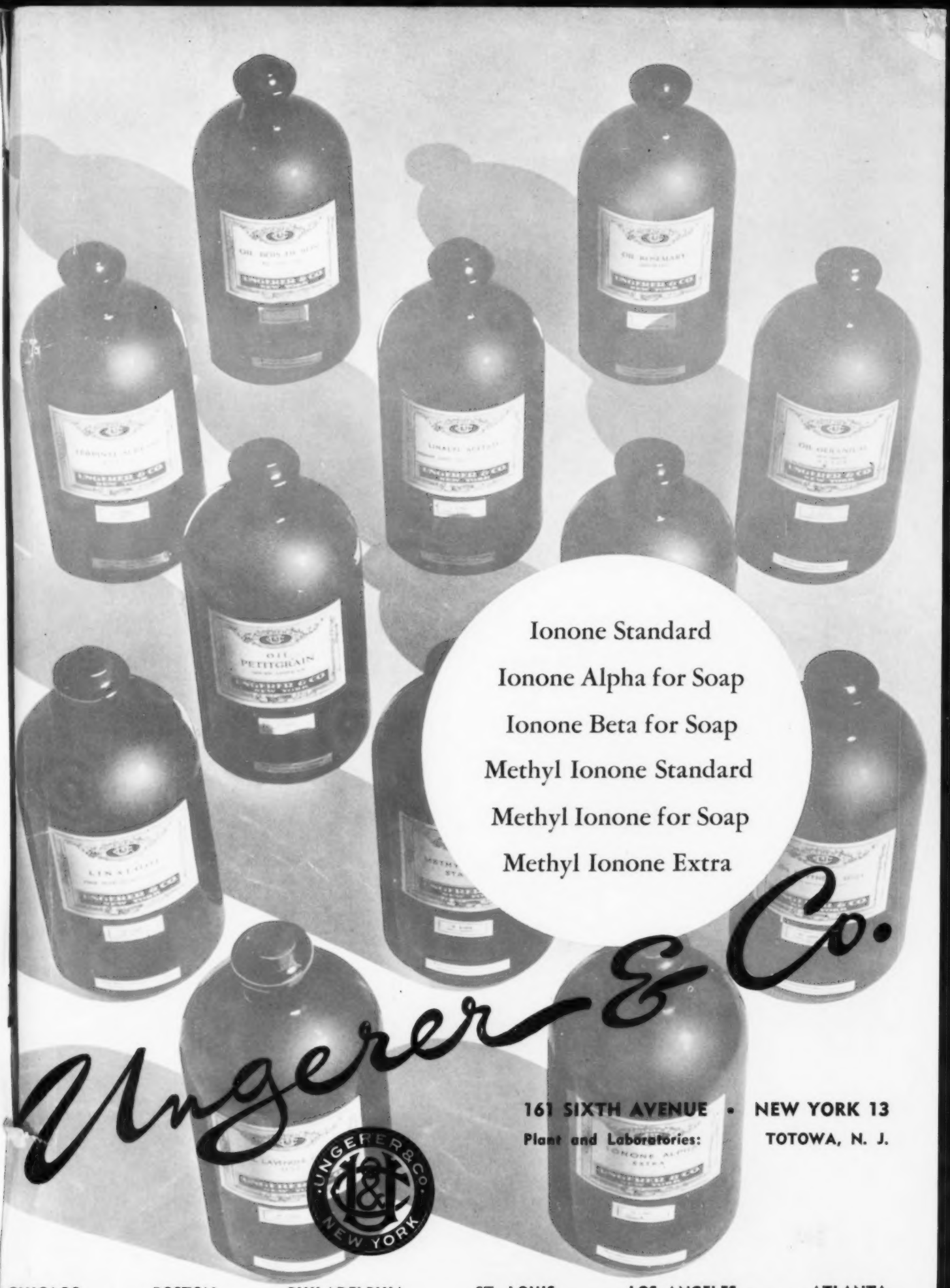
When Charles Luckman resigned as Lever prez last month, a suburban tabloid on Long Island captioned its Associated Press account of the resignation, "Wonder Boy Charley out of Lux." And then went on to state that he resigned "because he couldn't see eye-to-eye with the British and Dutch capitalists who control the American company." Or was it vice-versa?

• • •

Japanese pyrethrum may soon be on world markets again. Production for 1949 was reported at two million pounds most of which is being consumed in Pacific areas. Plans are to increase output to 6,500 hectares this coming season compared to 5,500 hectares in 1949. Japan dominated world pyrethrum twenty years ago before Kenya took the market away via superior quality. Will the Japs take the hint,—or go right back to growing the low-grade stuff they used to turn out?

• • •

What well-known mid-west soaper will blossom forth with a new high-grade nationally-advertised toilet soap to be backed by extensive radio advertising later this year? Rumor has it that Jergens, in former years an active leader in the beauty soap field, plans to come out with the new one. Not confirmed!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JAMES Varley & SONS, INC.

# WINTER-PHENE

## DISINFECTANT-DEODORANT WITH A DELIGHTFUL FRESH MINT ODOR

## Refreshing as a mint julep

**Do your premises have D. O.*? Do your customers and employees whisper behind your back? Do persons entering your building or rest rooms cringe because of overpowering, disagreeable disinfectant odors? Have you often wondered why someone doesn't make a disinfectant that didn't smell like one? YOUR PROBLEM IS SOLVED. WE DO!**

WINTER-PHENE is America's first and finest mint odored germicide. Compounded with pure U. S. P. oil of spearmint and oil of peppermint—the very same oils used in flavoring the best chewing gum. WINTER-PHENE with its delightful, delicious fragrance of fresh cut mint is an extremely powerful germ killer—even kills the resistant organisms causing athlete's foot disease!! Each gallon of WINTER-PHENE makes 100 gallons of powerful, yet safe, disinfectant solution!!

WINTER-PHENE is perfect for disinfection of floors, walls, equipment, rest rooms, locker rooms, gymnasiums, etc. and makes a most refreshing prophylactic footbath solution.

WINTER-PHENE mixes with water to form milky, permanent solutions—use it anywhere for disinfecting and deodorizing in one operation. WINTER-PHENE is available at the best Janitor and Sanitary Supply Houses in either bulk or small containers. Order WINTER-PHENE now and do away forever with D. O.**

**Disinfectant Odor*
***The same old Disinfectant Odor*

Available in 55, 30, 15 and 5 Gal. Drums and 1 Gal. Cans.

JAMES VARLEY & SONS, INC.
1200 Switzer Ave., St. Louis 15, Mo.
Please send sample, prices and other information on WINTER-PHENE to:

Name ..... Title .....
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Address .....
City ..... Zone .....
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James Varley & Sons, INC.

1200 SWITZER AVENUE • SAINT LOUIS 15, MO.